Monthly and Seasonal Mean Analyses

June, July, August
1988

METEOROLOGICAL OFFICE

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Monthly and Seasonal Mean Analyses

June, July, August 1988

Mean fields obtained from the archive of operational analyses

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Bracknell
Berkshire RG12 2SZ

September 1988

Note: Permission to quote from this document should be obtained from the Assistant Director of the above Meteorological Branch.

Monthly and Seasonal Mean Analyses

Introduction

The archive of operational analyses contains a continuous record of global analyses every 12 hours (00 and 12 GMT) from May 1983 onwards. They are copies of the update analyses produced in the operational numerical weather prediction system using the 15-level model (Bell and Dickinson 1987). In this booklet there are presented monthly and seasonal mean fields computed from the archived analyses for a single season. Since a season spans three calendar months, there are four sections. Sections 1, 2 and 3 contain charts of the monthly mean fields for each month, and section 4 contains charts of the seasonal mean fields. The seasonal means are the means of the fields in the first three sections, weighted according to the number of days in each month.

Each section contains a set of charts for the northern and southern hemispheres and a set for the tropics. In each hemisphere, polar stereographic projects have been used to prepare a chart of pressure at mean sea level and composite charts showing both height (contours) and wind (vectors and isotachs) at 850, 500, 250 and 100 mb. In the tropics the charts are presented on a latitude–longitude projection encircling the globe in three sections covering the longitudes 0°–120°E, 120°E–120°W and 120°W–0°. This projection has been used to produce a series of charts of wind vectors and isotachs at 850 and 250 mb. On all charts, contours are depicted as solid lines, wind vectors as arrows and isotachs as dashed lines.

When archiving was first undertaken, for May 1983, global fields were stored according to their coefficients in a series of spherical harmonics up to a triangular truncation of T40 (Swinbank 1984). Since this is roughly equivalent to a latitude–longitude grid with a resolution of 4.5° by 4.5°, the conversion from the model's standard grid of 1.5° by 1.875° to the spectral representation results in some smoothing of the fields. Subsequently, a new method for storing the archived fields was developed as a result of discussions within the Working Group on the Development of the Operational Suite (WGDOS). This method uses a compressed digital coding of the original model field, on its standard latitude–longitude grid, but with fewer significant figures (Lowther 1986). It was implemented on 18 December 1985 in a limited version. After the inclusion of more fields, and following monitoring to ensure that the two representations (i.e. truncated spectral and compressed grid-point) of the archived analyses were consistent, the spectral archive was terminated on 31 October 1986.

The contents of the archives may be examined by consulting the computer data set 'M20.NARCHIND', where the tape number, file number and data set name for each archived day may be found. The fields in the spectral archive are stored in the format required by the post-processing (p-p) package. Details of the format and of the subroutines to be used for accessing the data are described in the manual for the p-p package. Some examples are shown in Swinbank (1984). The fields in the daily grid-point archive are stored as printfiles (Lowther 1986). A list of the fields in each of the two versions of the daily archive is given in the relevant documentation.

The monthly and seasonal mean fields have been computed from the spectral archive up to the end of October 1986. Thereafter, they have been computed from the grid-point archive. The mean fields are held as computer data sets in Met O 20, in spectral or grid-point format, as appropriate, and are available for general use. Means for each month and season over three years of the spectral archive are also available. The mean fields that are held are as follows:

Field		Pressure level (mb)
Westerly wind component	(m/s)	1000*, 850, 700, 500, 400, 300, 250, 200, 150, 100, 70, 50
Southerly wind component	(m/s)	
Height	(dam)	
Temperature	(K)	
Relative humidity	(%)	1000*, 850, 700, 500, 400, 300
Pressure at mean sea level	(mb)	

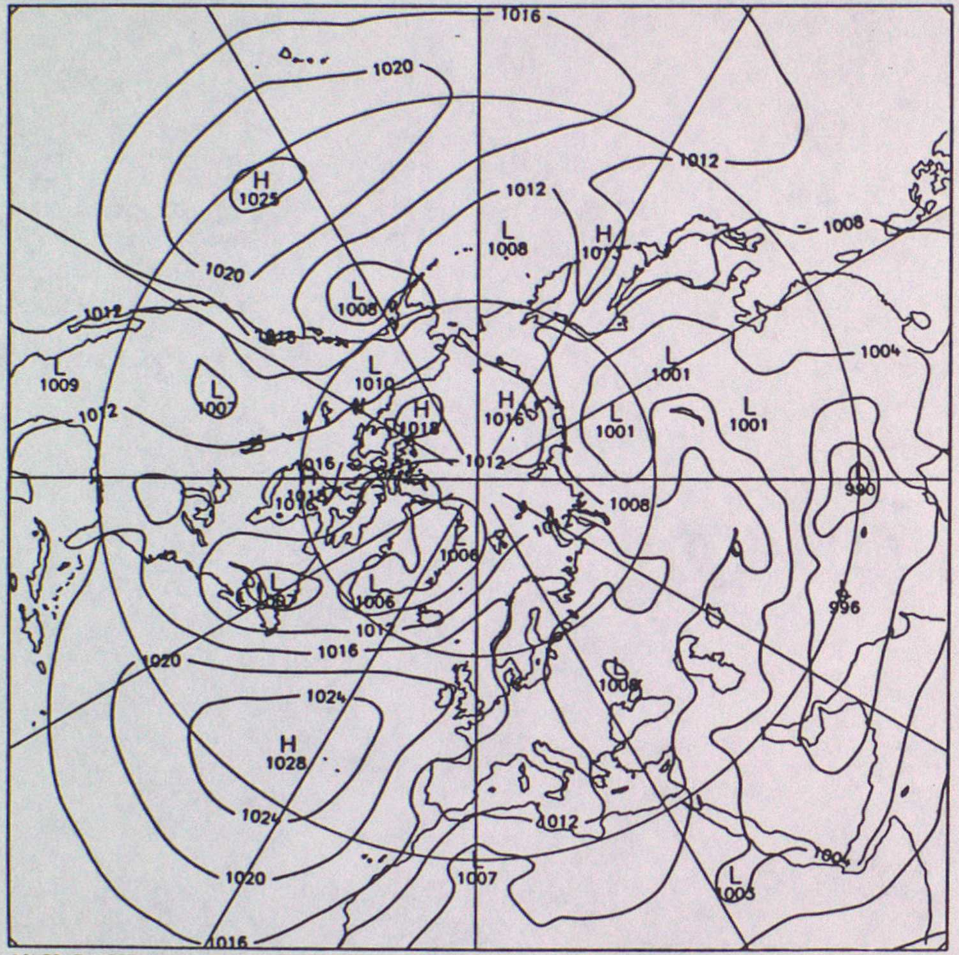
* Fields at 1000 mb are held in the spectral archive. In the grid-point archive this level has been omitted and fields at 950 mb are held instead.

References

Bell, R.S. and Dickinson, A.	1987	The Meteorological Office operational numerical weather prediction system, Meteorological Office Scientific Paper No. 41, Met.O.979, HMSO.
Lowther, D.	1986	WGDOS Printfile Archive, Operational NWP Scheme, Documentation Paper No. 9.1, Met O 2b, Meteorological Office, Bracknell.
Swinbank, R.	1984	A system to archive operational analyses for research purposes. Met O 20 Technical Note No. II/218. Meteorological Office, Bracknell.

JUNE
1988

OPERATIONAL ARCHIVE MEANS. JUNE 1988
PMSL
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
SEA LEVEL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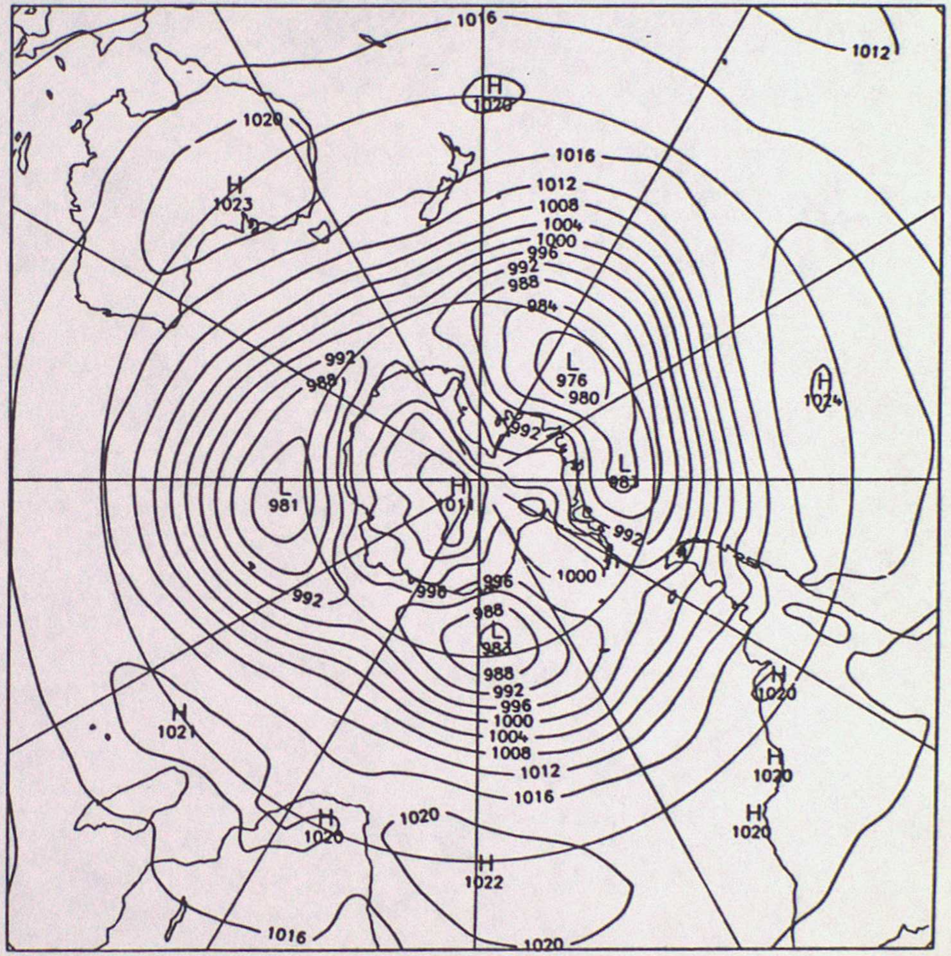
CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. JUNE 1988
PMSL
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
SEA LEVEL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H 1020
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1020

CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. JUNE 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
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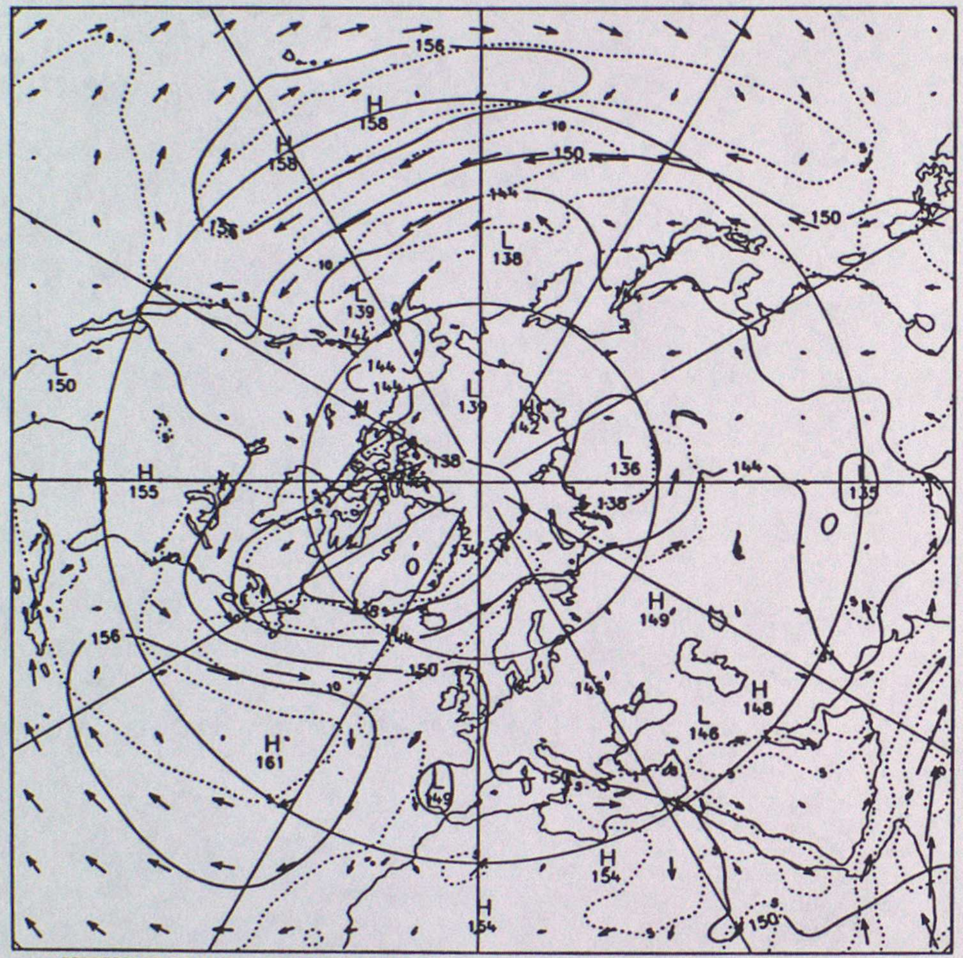
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149
H
154
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154
150

→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JUNE 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
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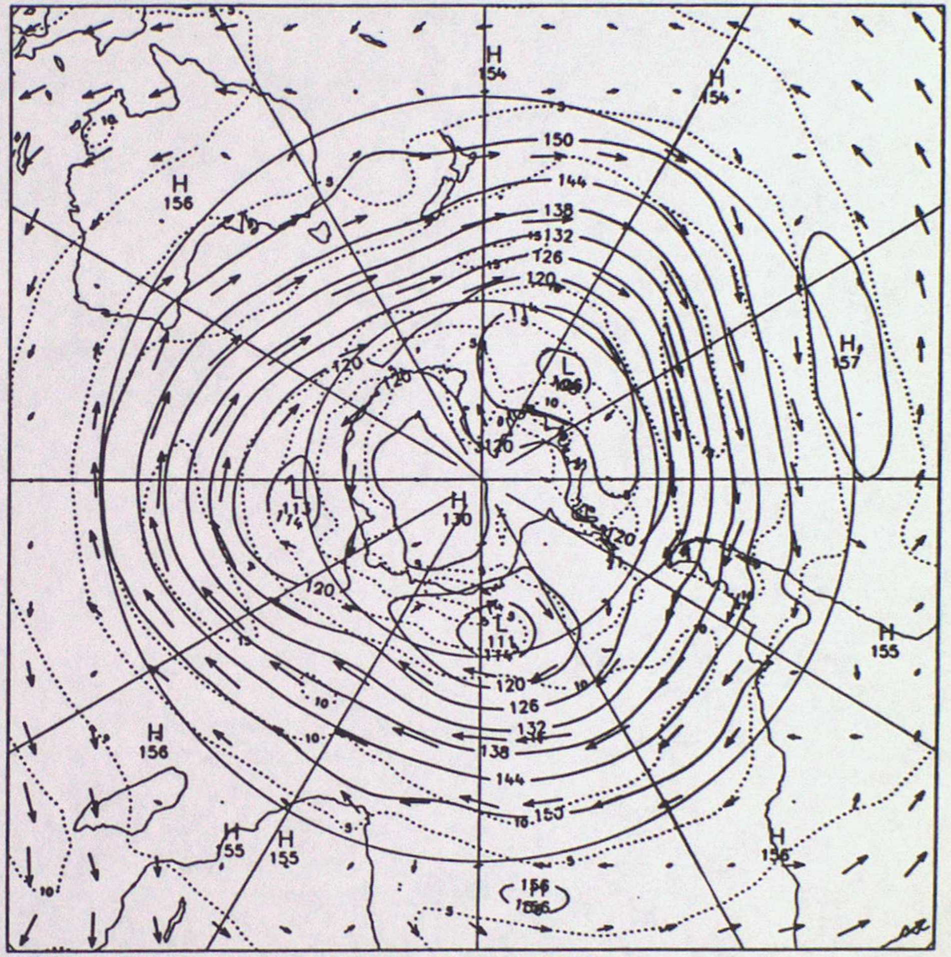
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156
156

→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   JUNE   1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
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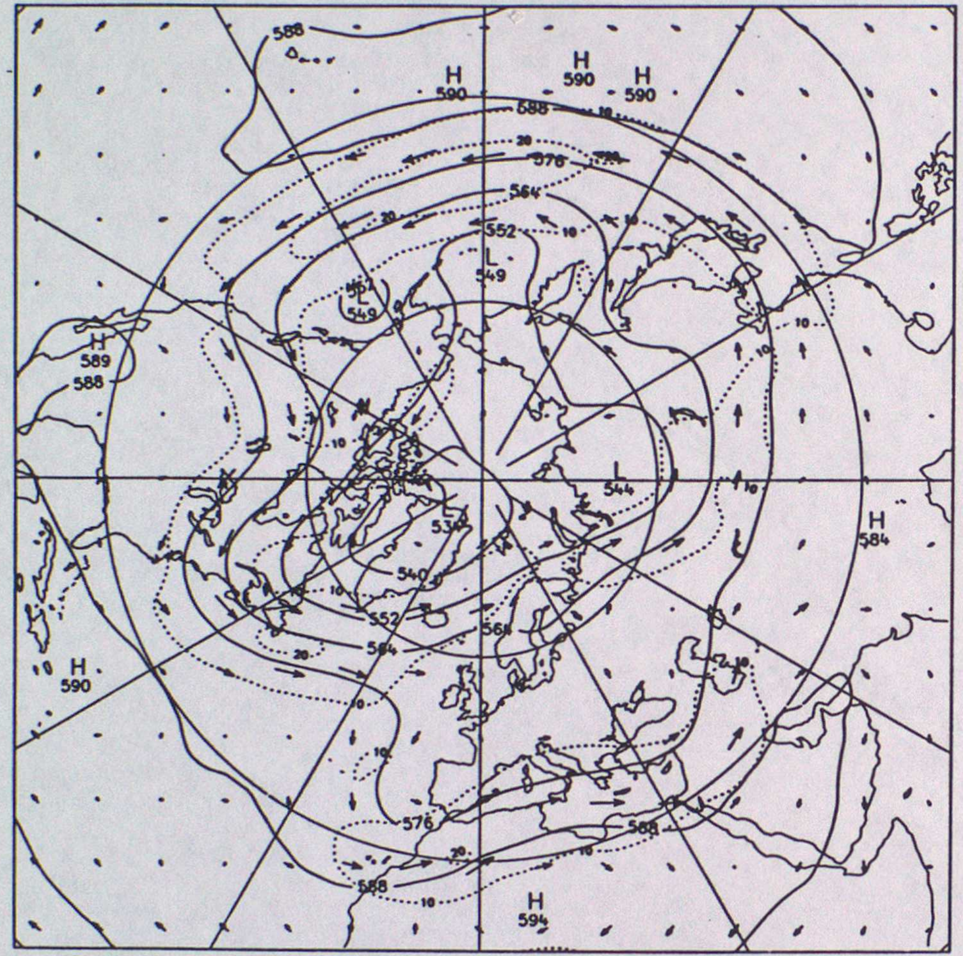

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H 594
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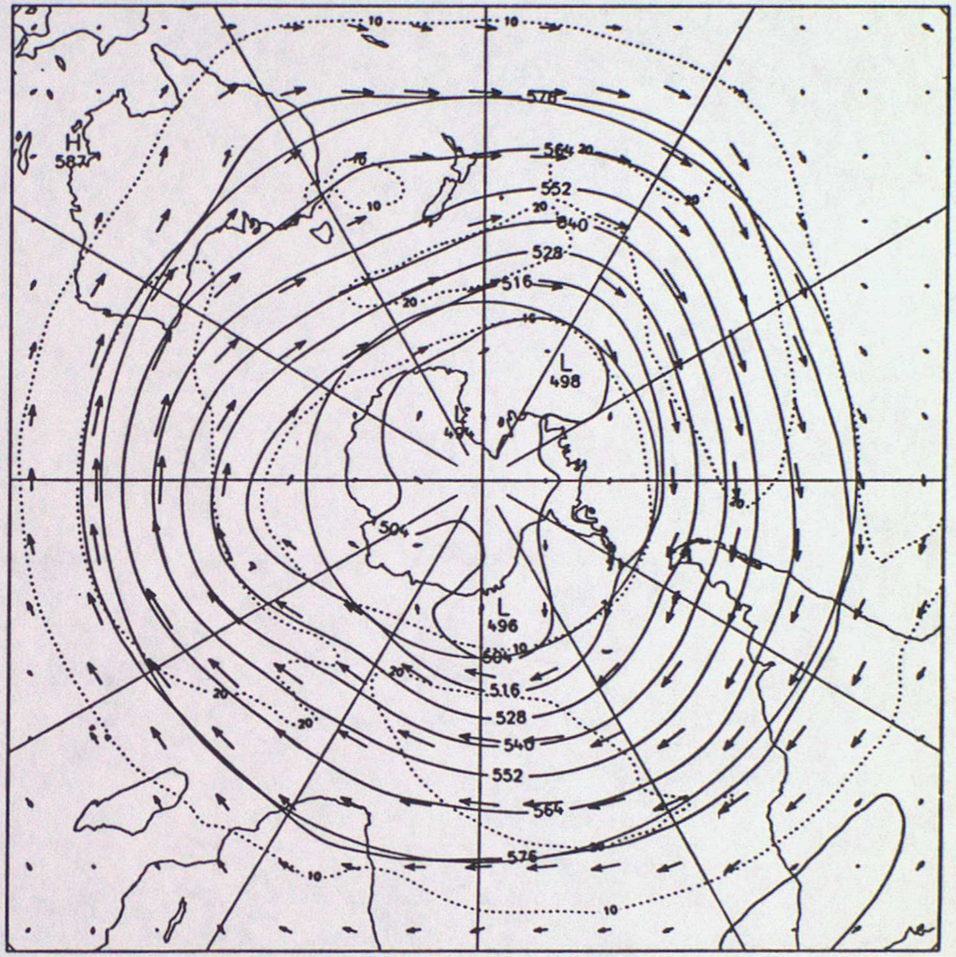
→ REPRESENTS 20 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   JUNE   1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
LEVEL: 500 MB



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→ REPRESENTS 20 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JUNE 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
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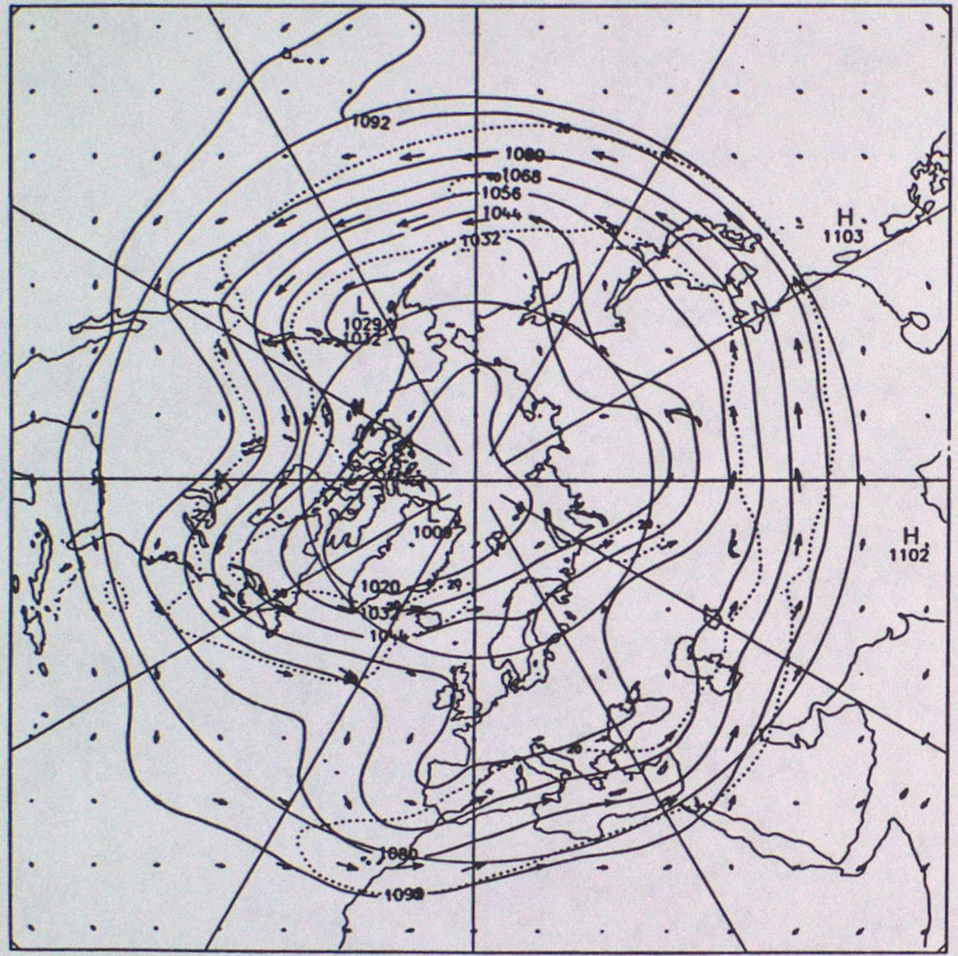
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→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JUNE 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
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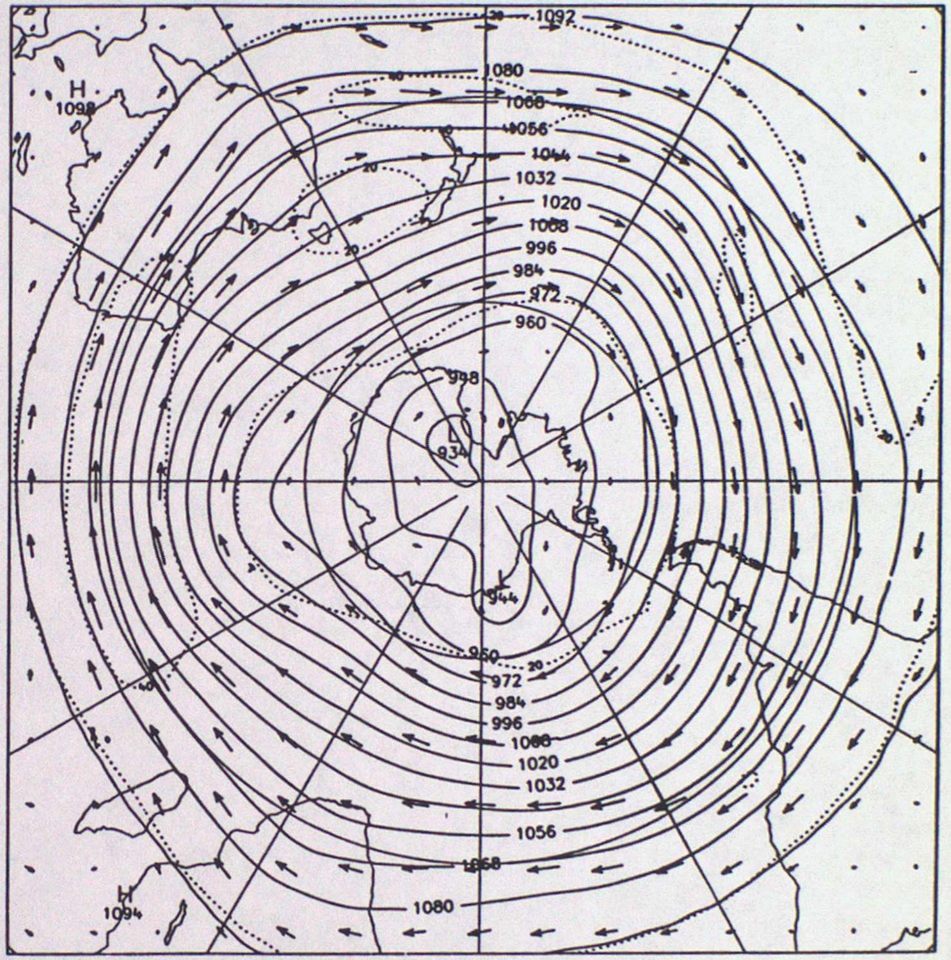
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1068
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→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JUNE 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
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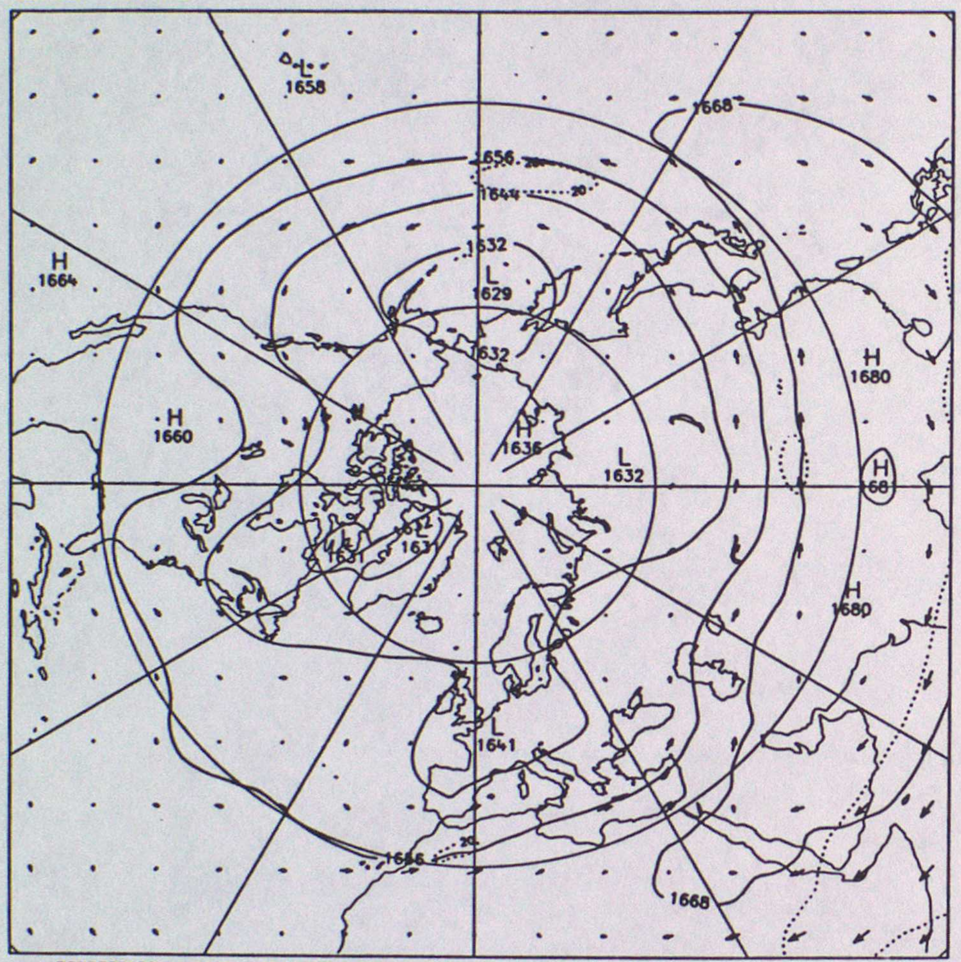
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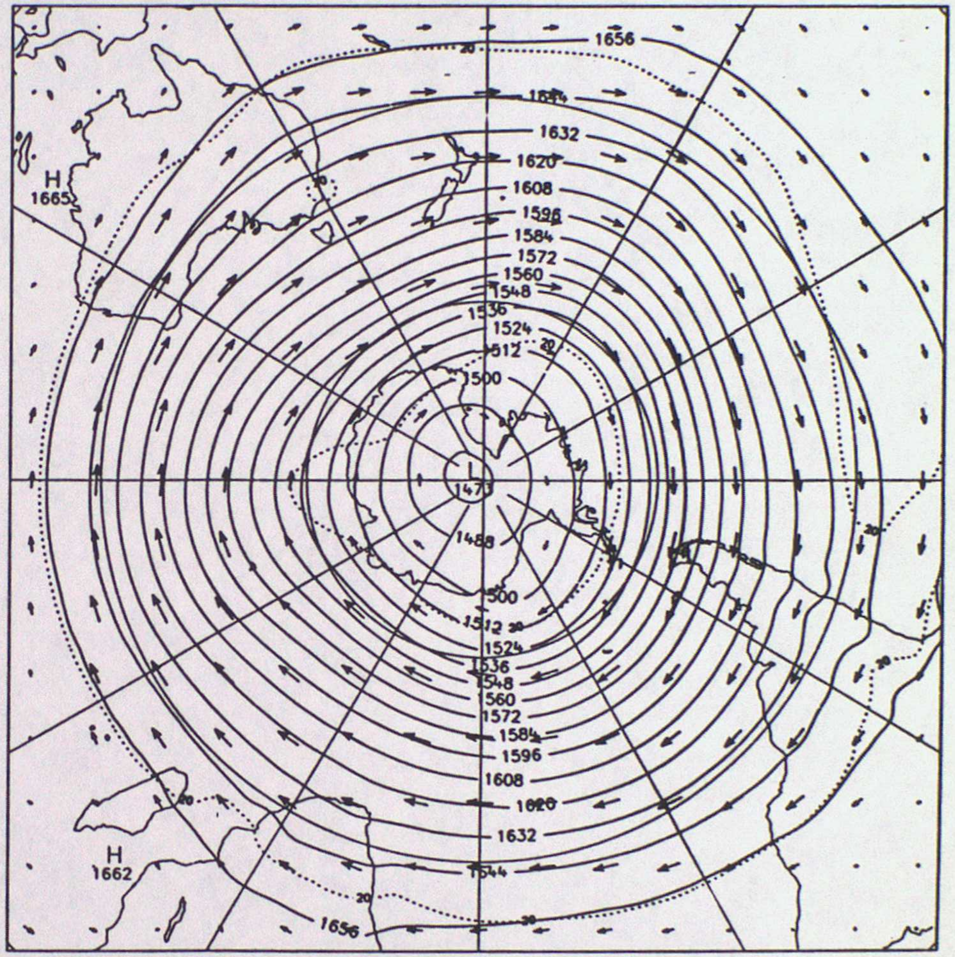
→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JUNE 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
LEVEL: 100 MB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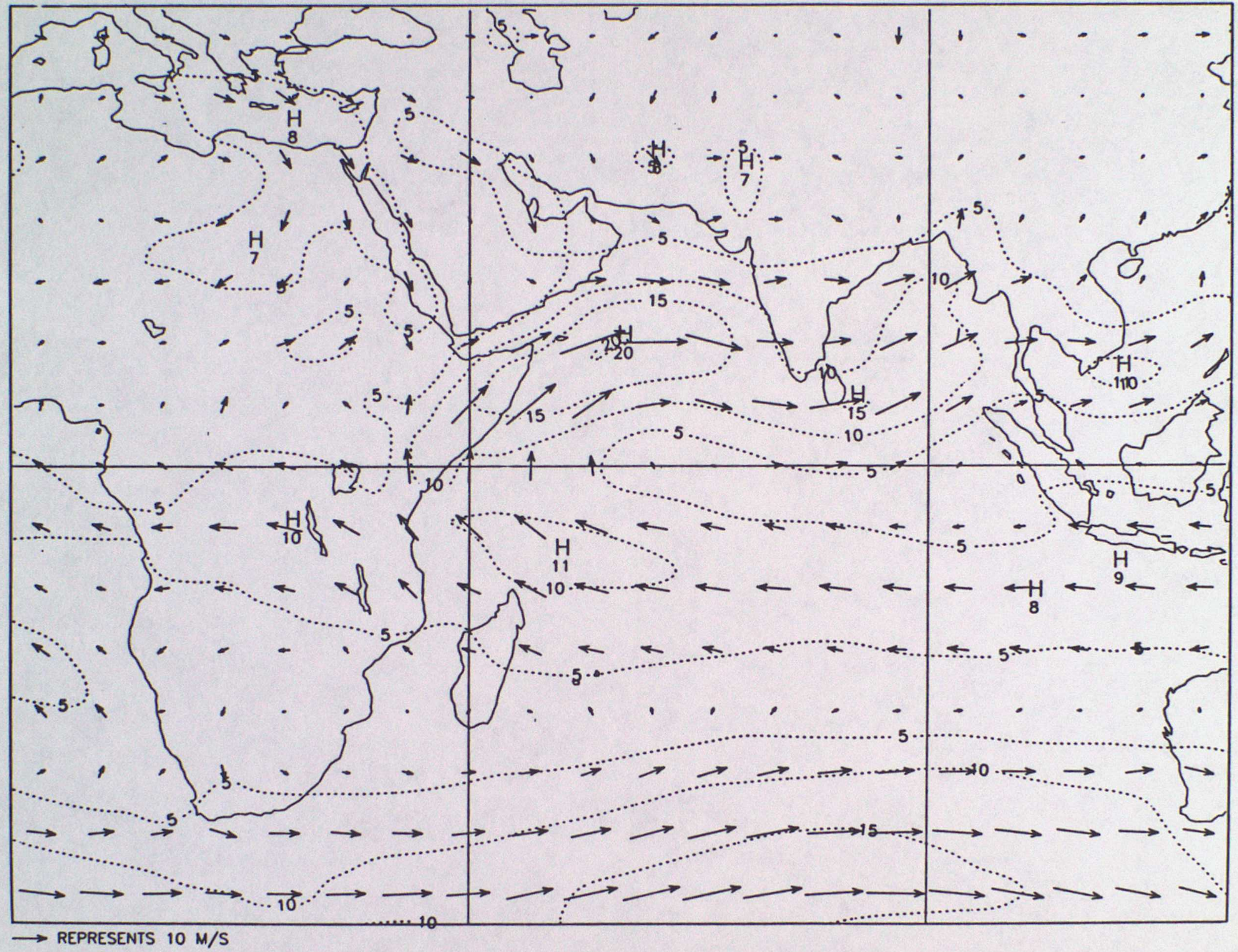
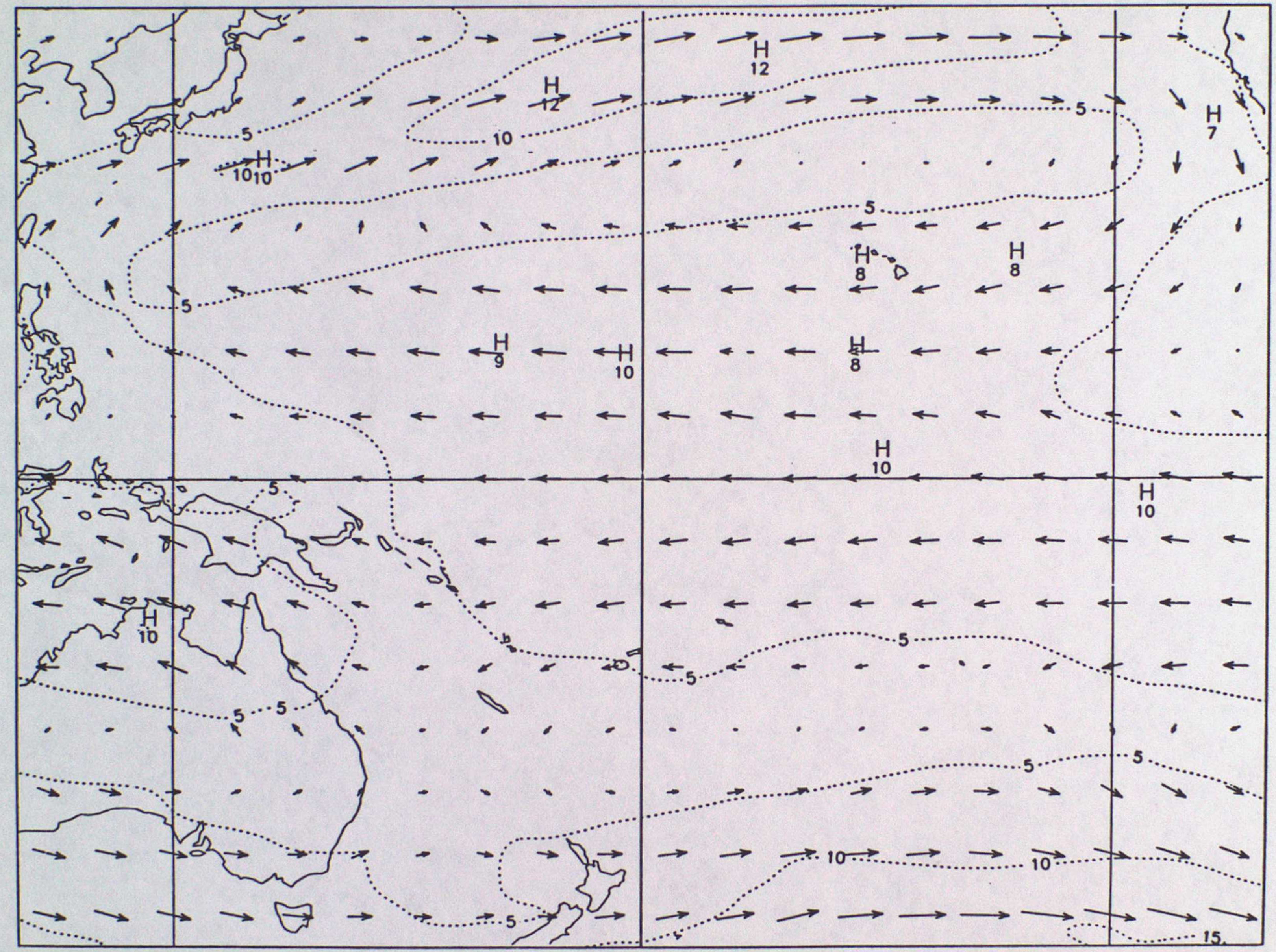
30

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JUNE 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
850 MBS. BETWEEN LONGS. 0 E - 120 E



OPERATIONAL ARCHIVE MEANS.   JUNE   1988
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM   0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
850 MBS.   BETWEEN LONGS. 120 E - 120 W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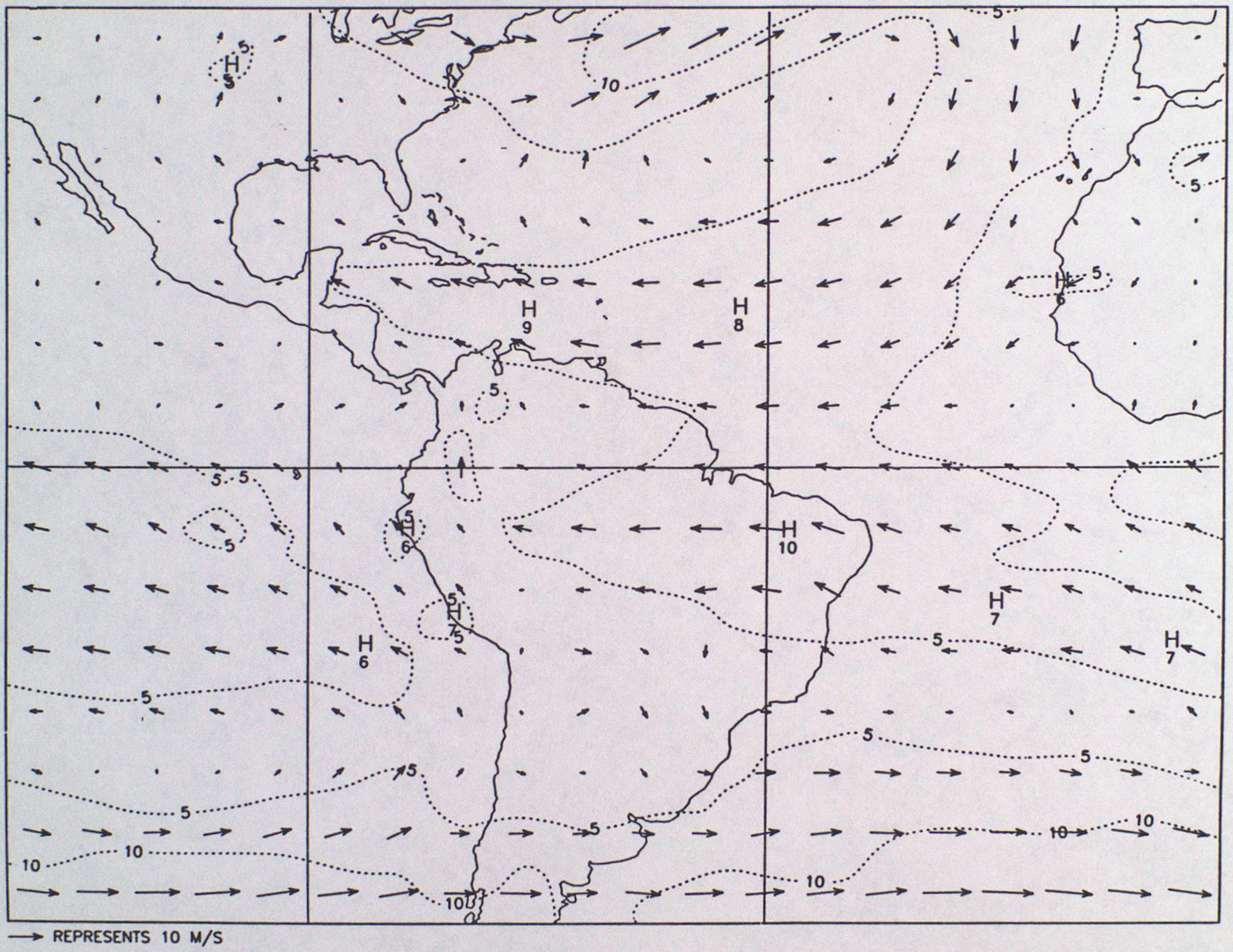
15

→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   JUNE   1988
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM   0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
850 MBS.   BETWEEN LONGS. 120 W - 0 W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→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   JUNE   1988
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
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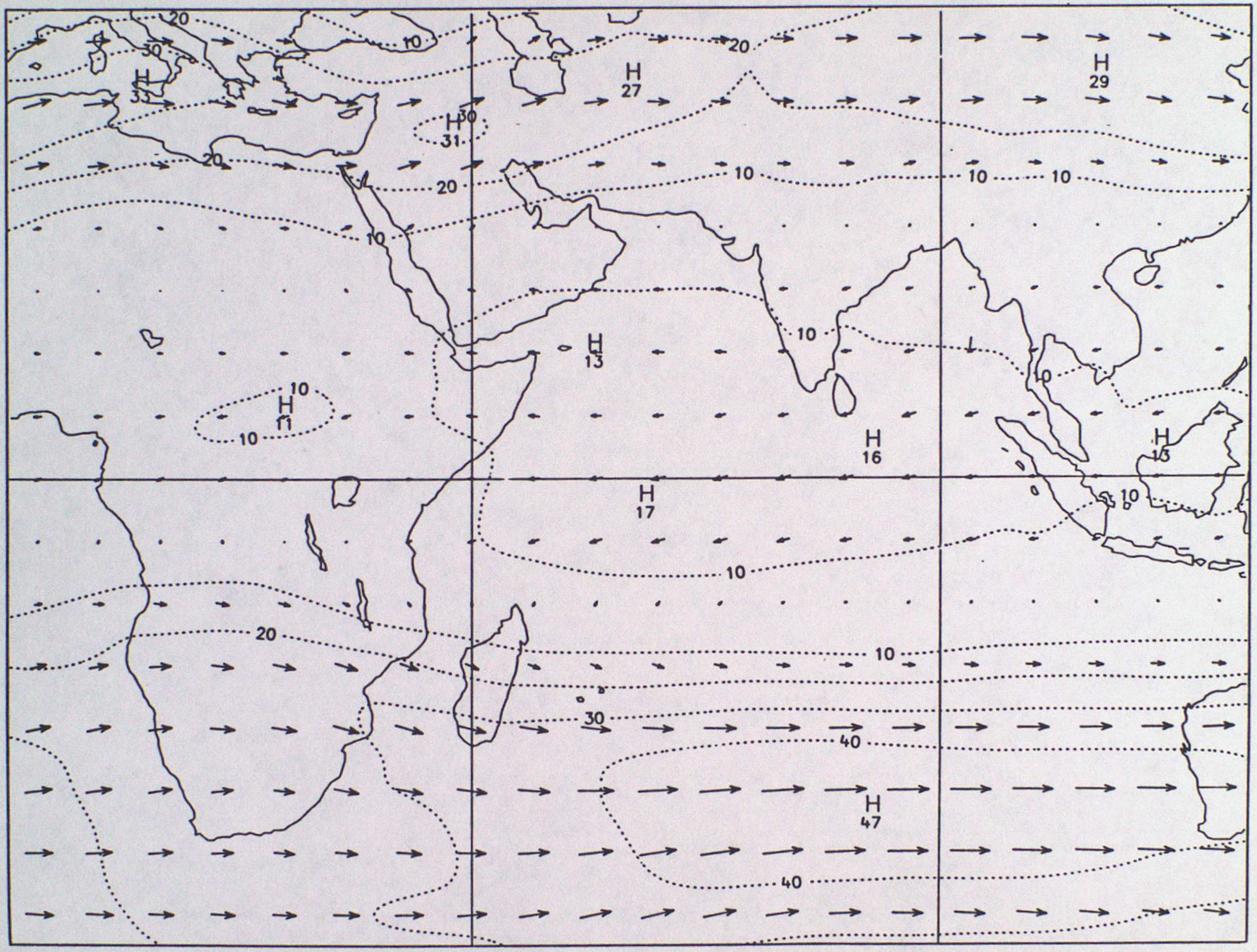

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H 17
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H 47
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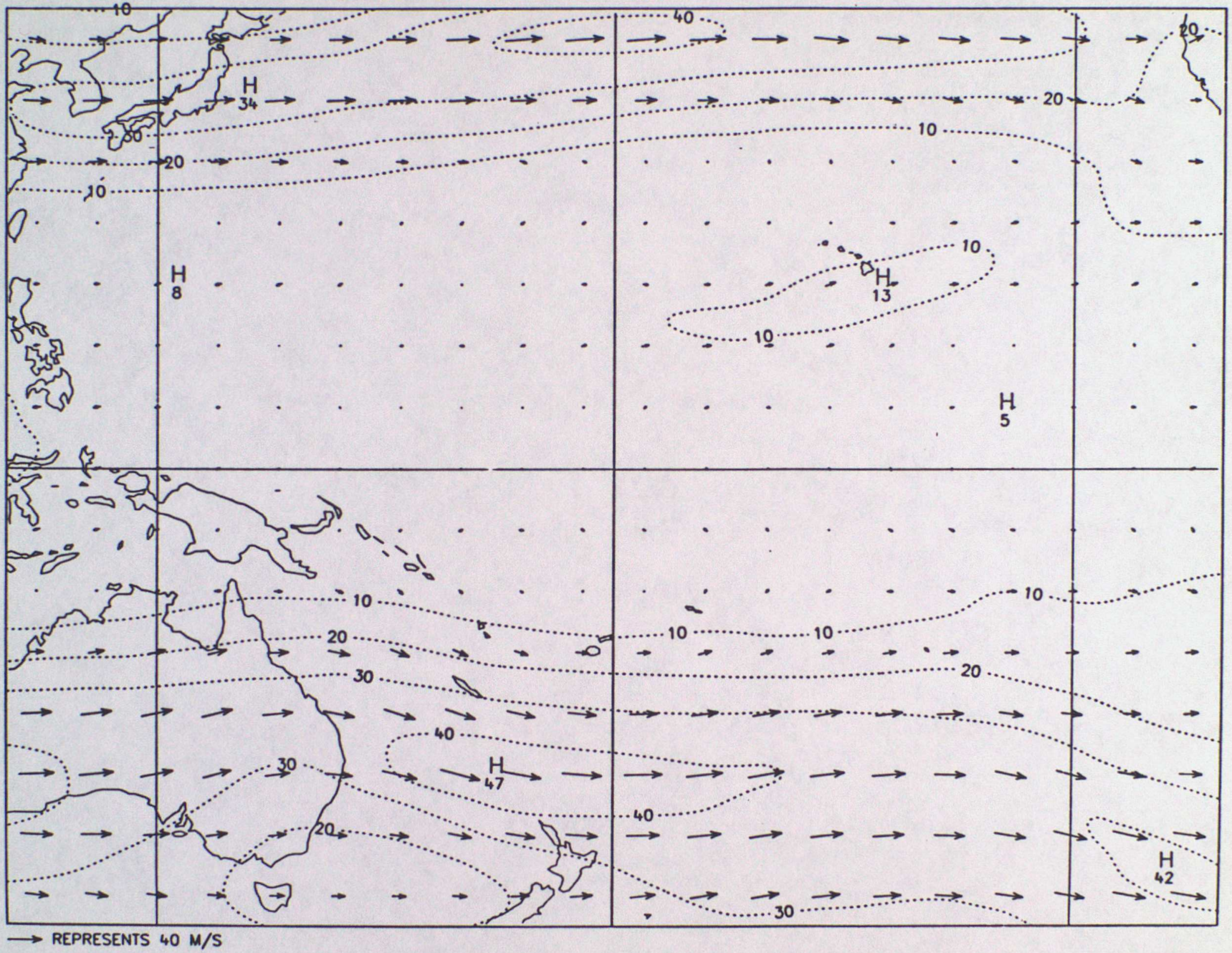
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. JUNE 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
250 MBS. BETWEEN LONGS. 120 E - 120 W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H 42
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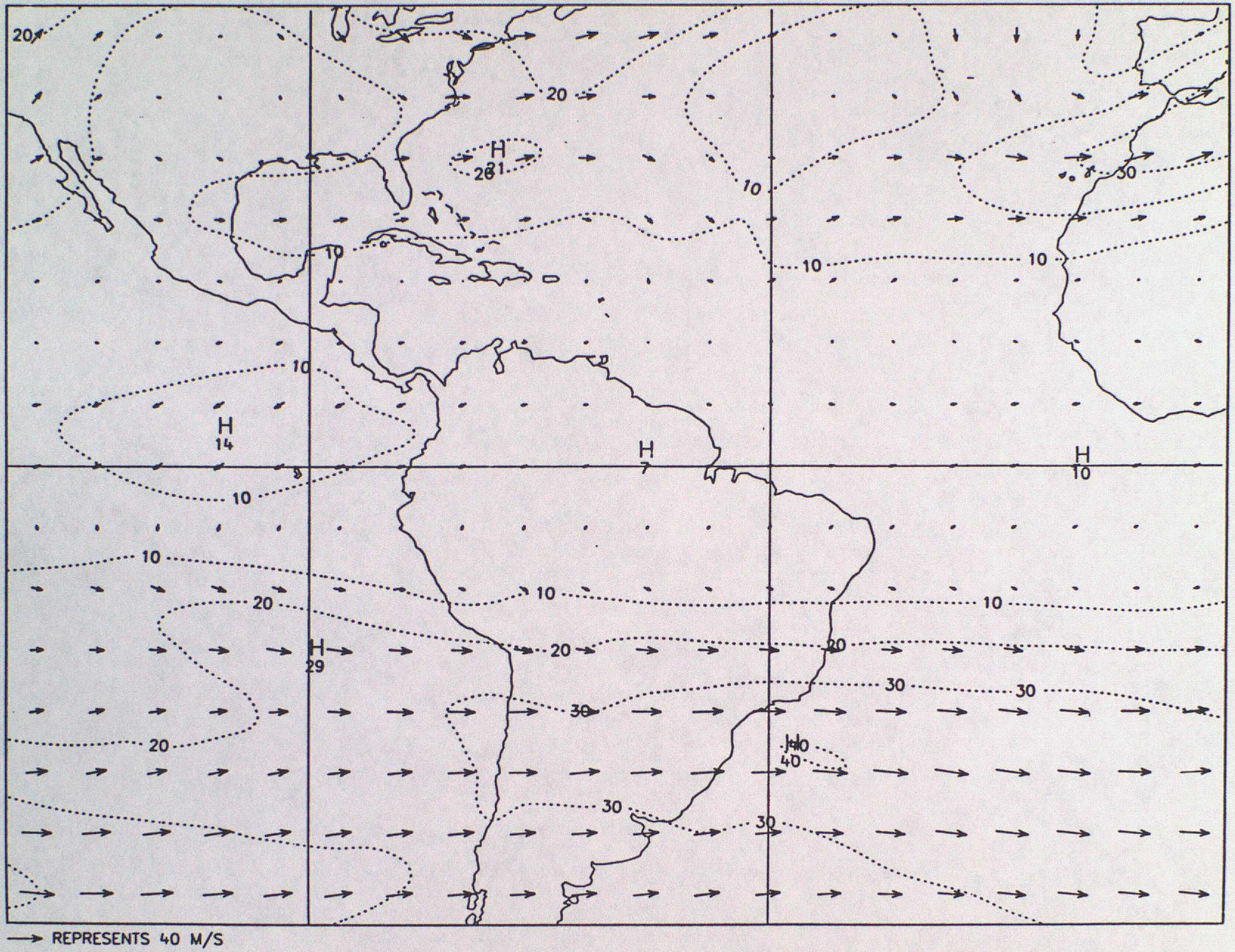
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS.   JUNE   1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 30/6/1988 DAY 182
250 MBS.   BETWEEN LONGS. 120 W - 0 W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20
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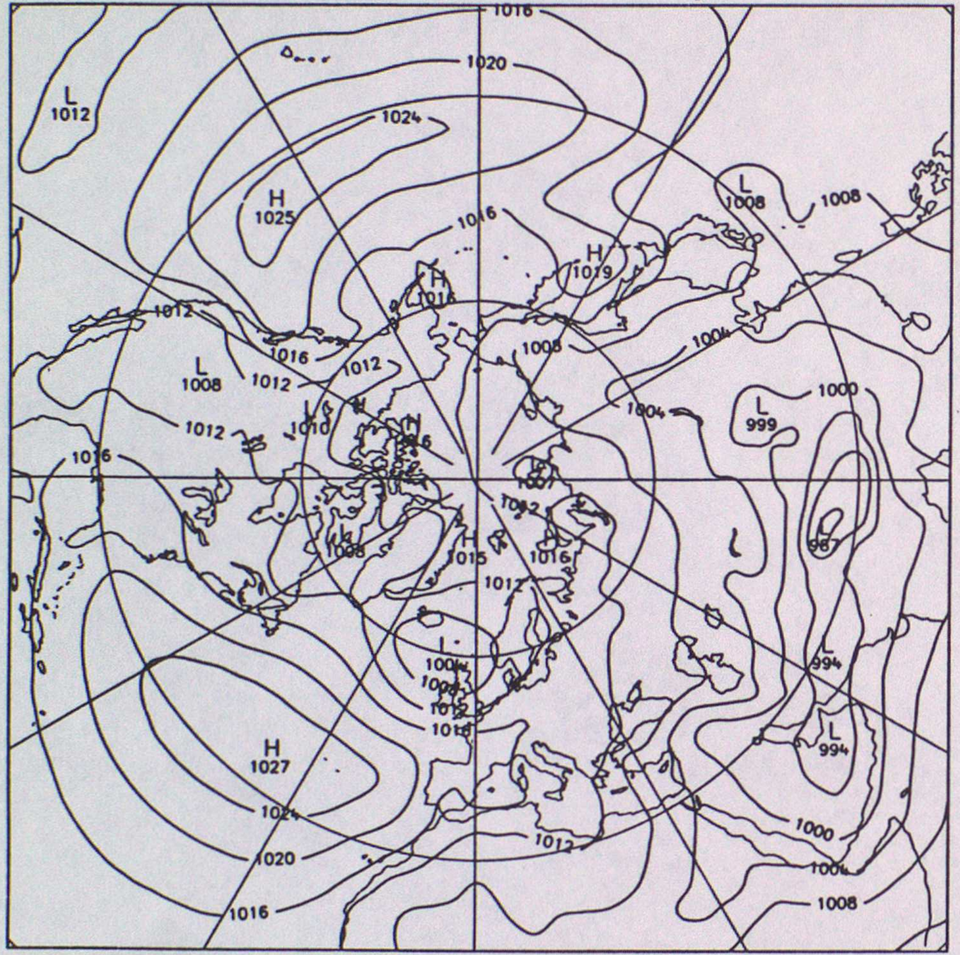
30
→ REPRESENTS 40 M/S

JULY
1988

OPERATIONAL ARCHIVE MEANS. JULY 1988
PMSL
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
SEA LEVEL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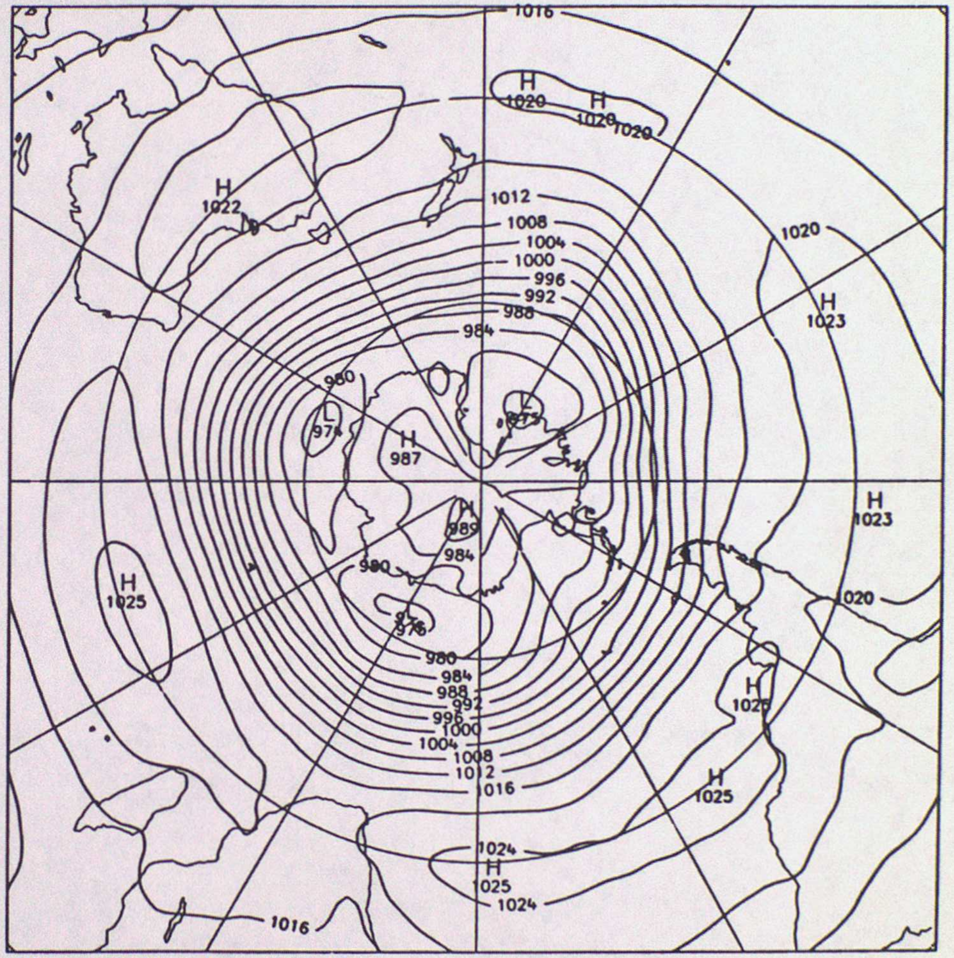
CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. JULY 1988
PMSL
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
SEA LEVEL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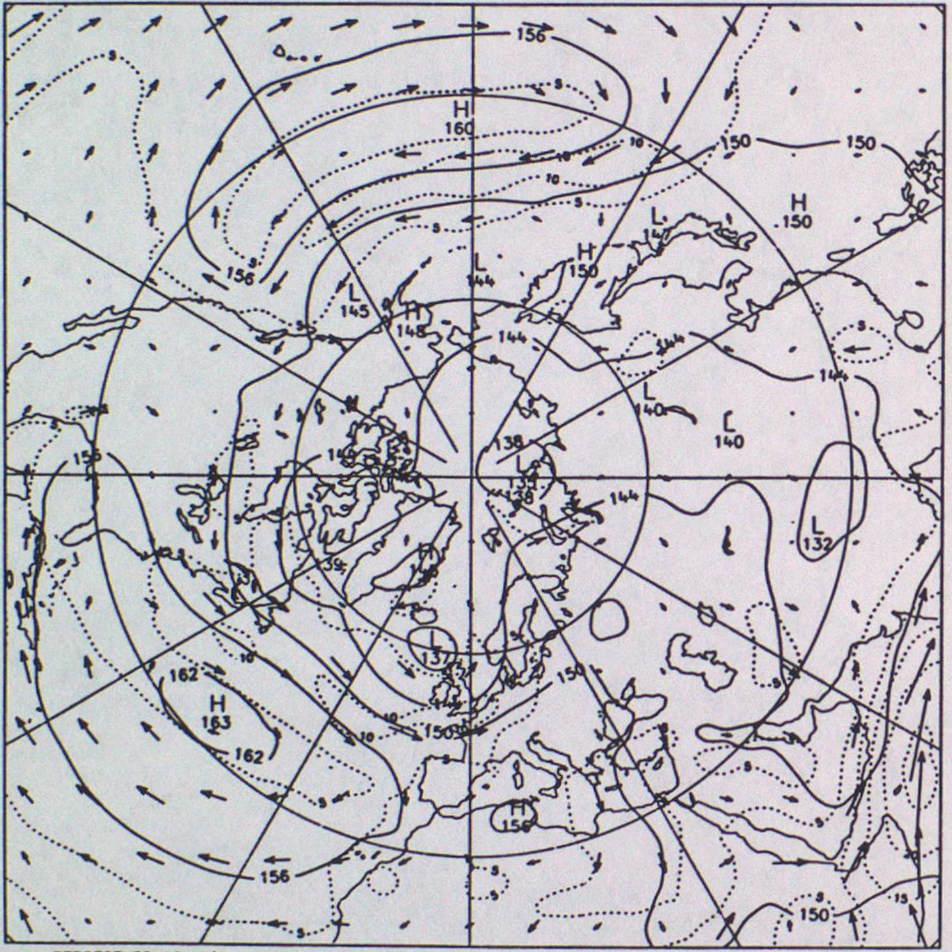
CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. JULY 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
LEVEL: 850 MB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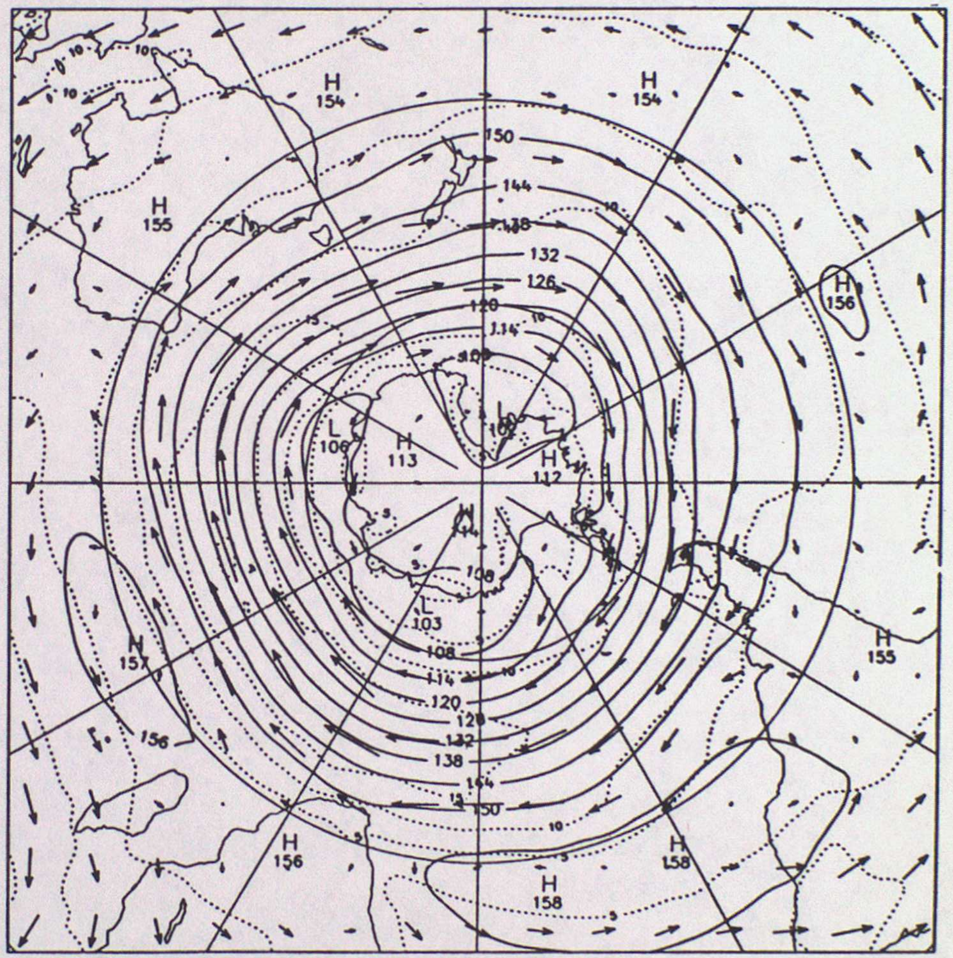
→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JULY 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
LEVEL: 850 MB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H 157
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H 155
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H 158
H 158

→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JULY 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
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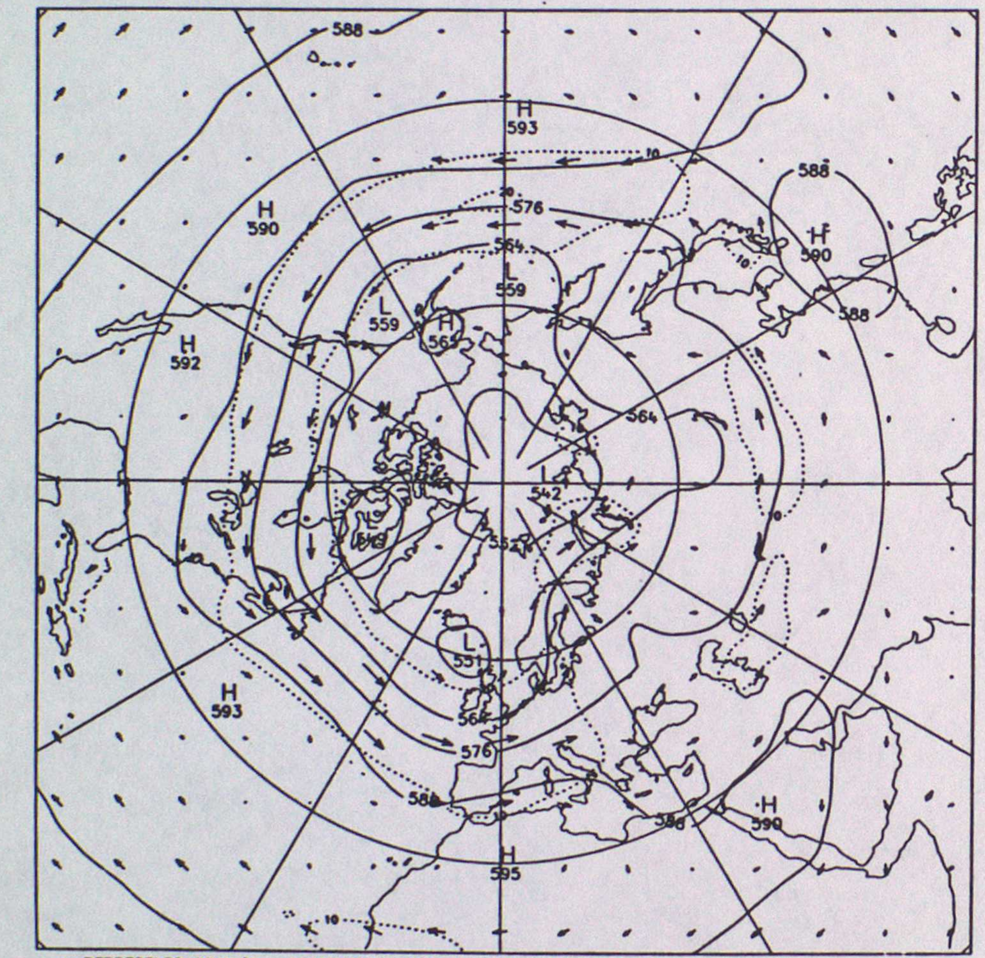
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H 595
H 593
10
20

→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JULY 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
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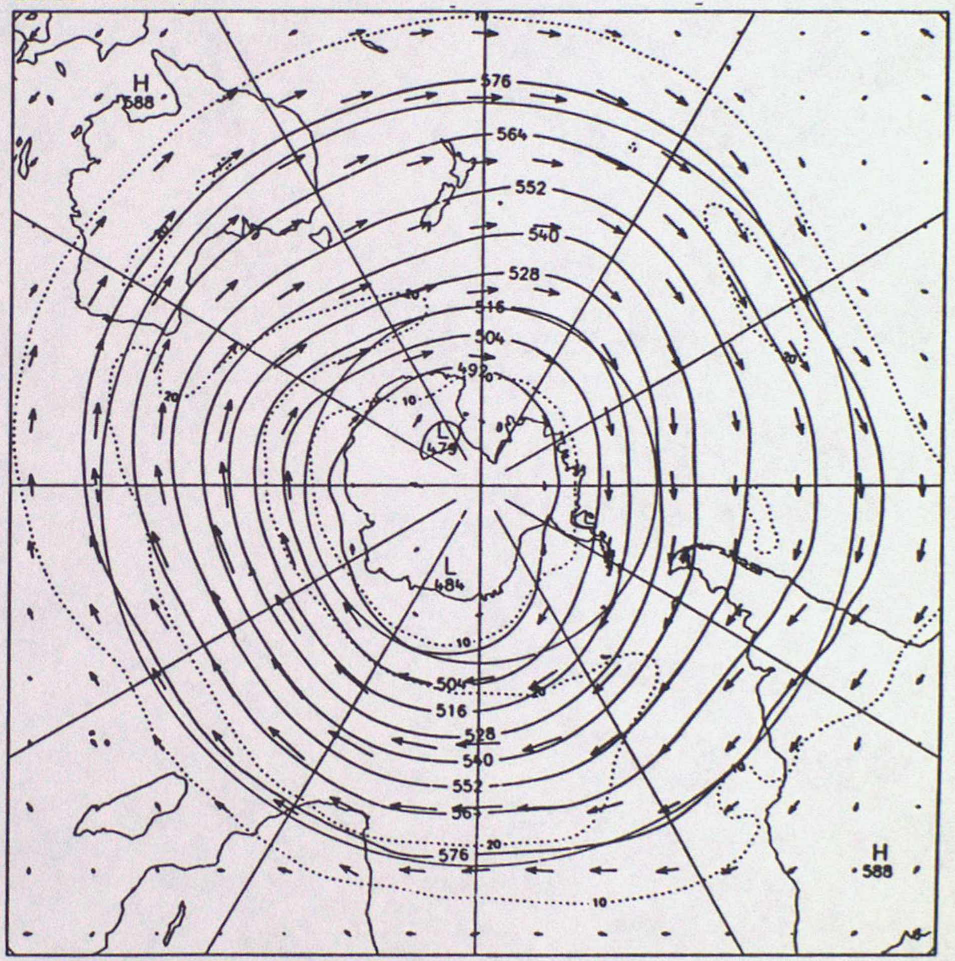
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→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JULY 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
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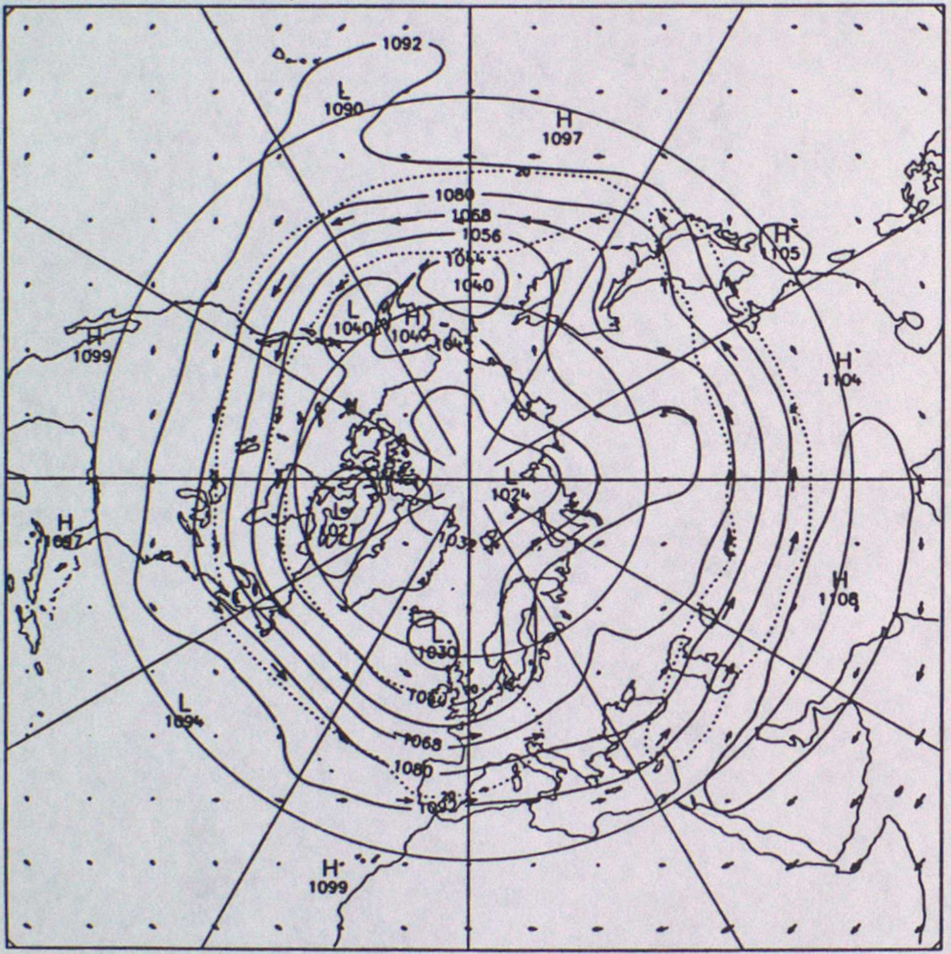
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H
1104
L
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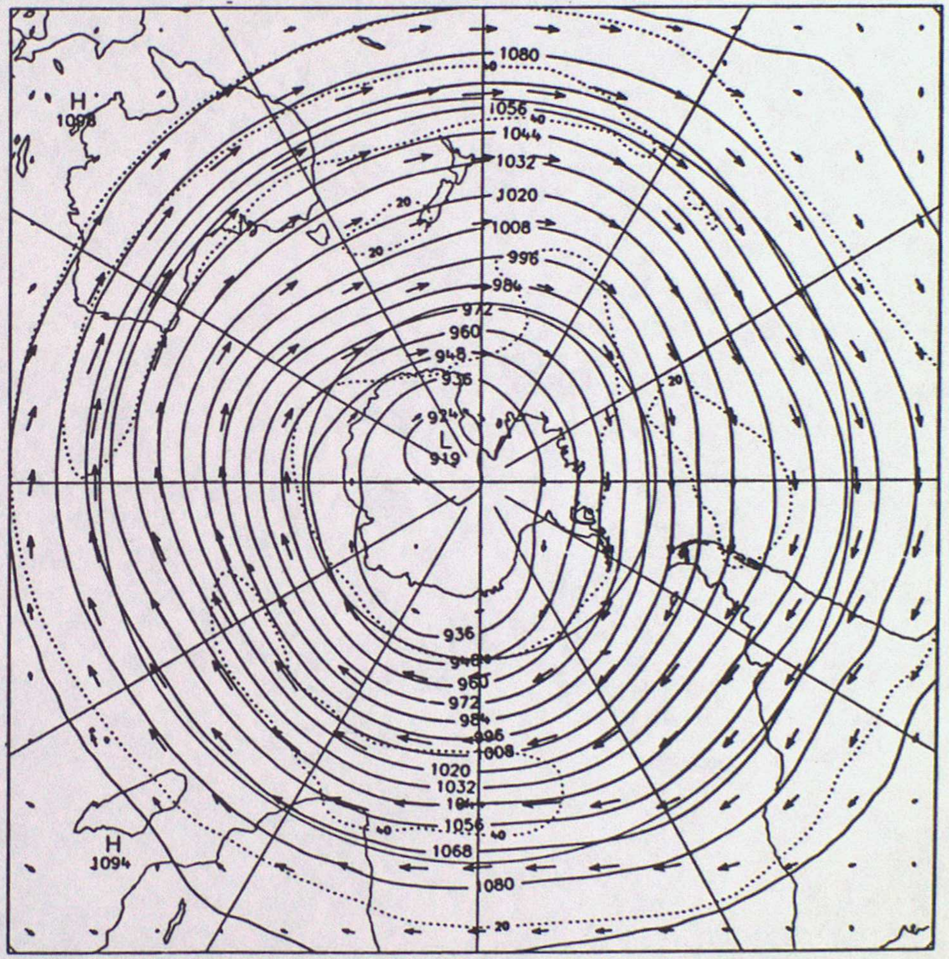
H
1097
L
1030
1068
1080
H
1108
L
1094
H
1099

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JULY 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
LEVEL: 250 MB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972
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996
1008
1020
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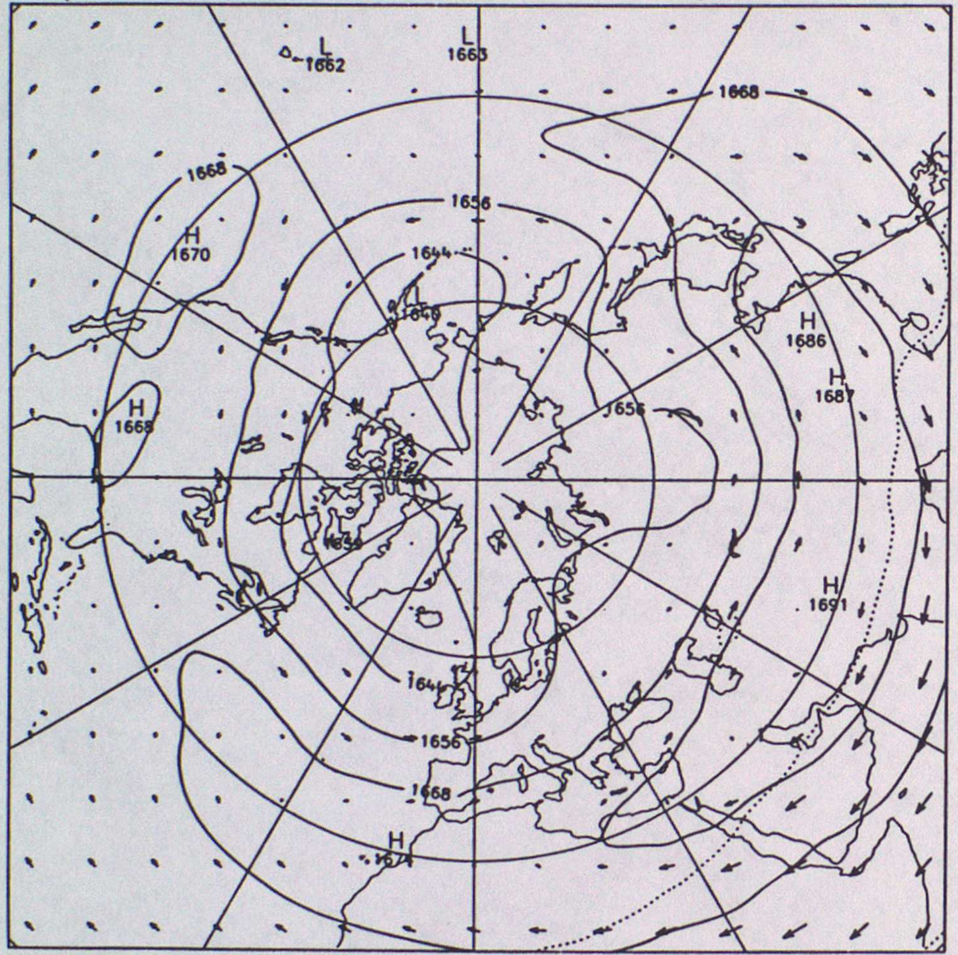
1056
1068
1080
H
1094
20

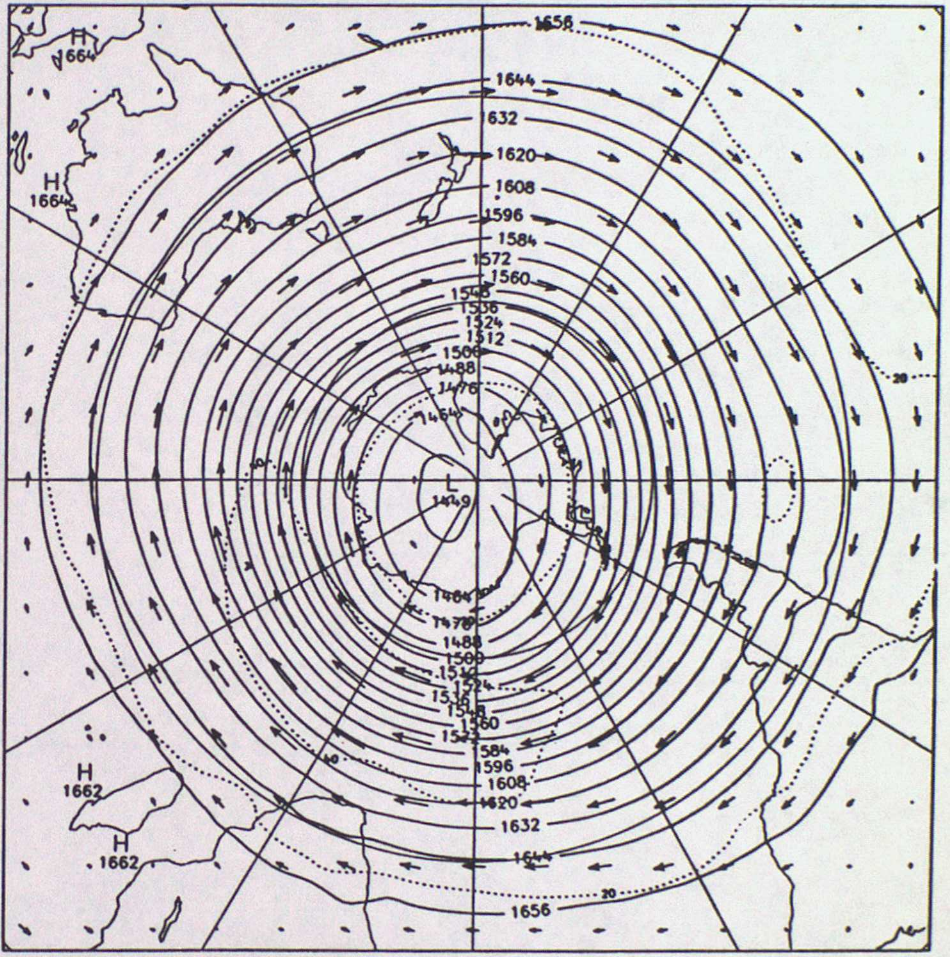
→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JULY 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
LEVEL: 100 MB


L
1662
L
1663
1668
1668
H
1670
1656
1644
1648
H
1686
H
1687
H
1668
1656
1656
H
1691
1644
1656
1668
H
1674

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JULY 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
LEVEL: 100 MB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1664
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H
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1548
1536
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1500
1488
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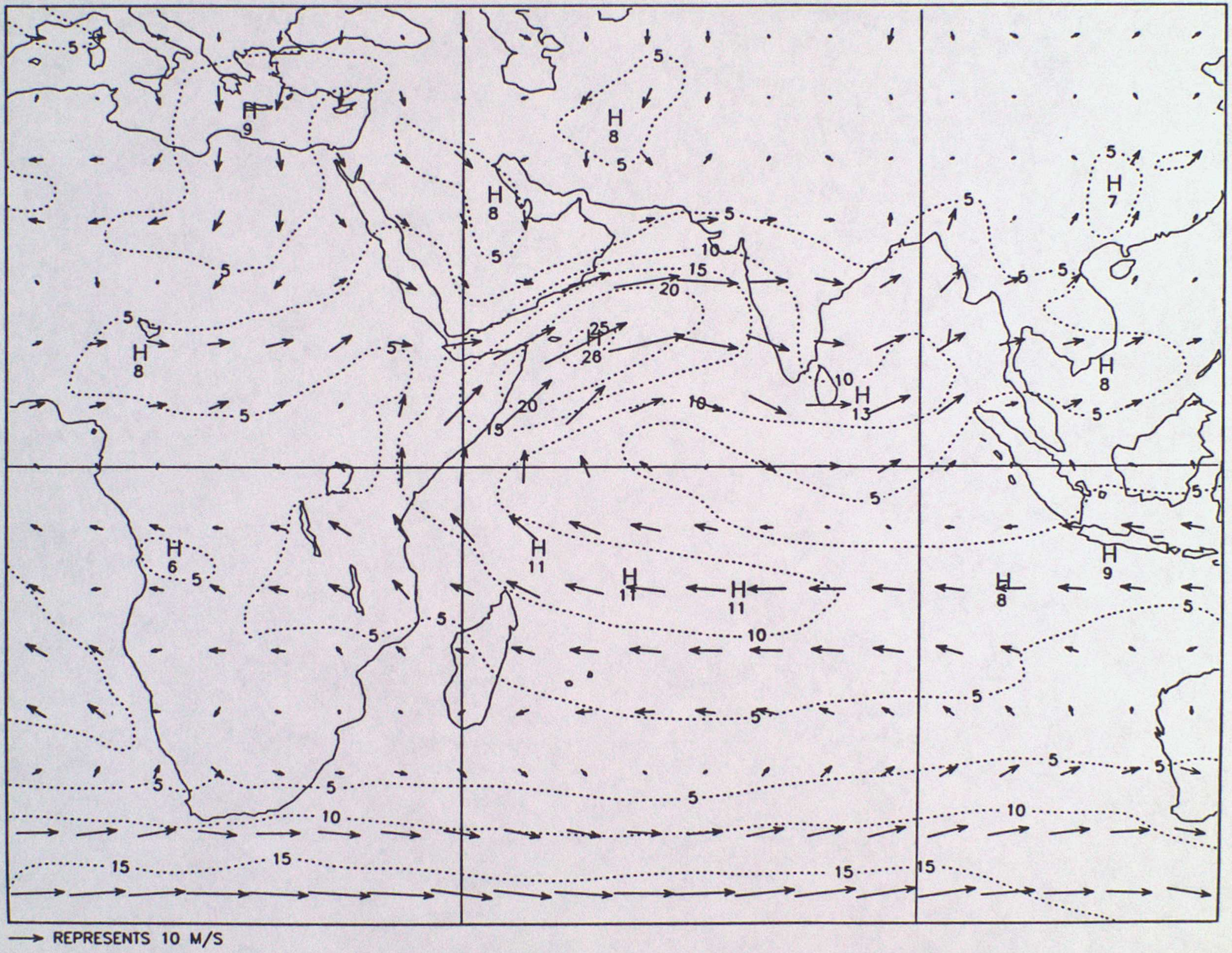
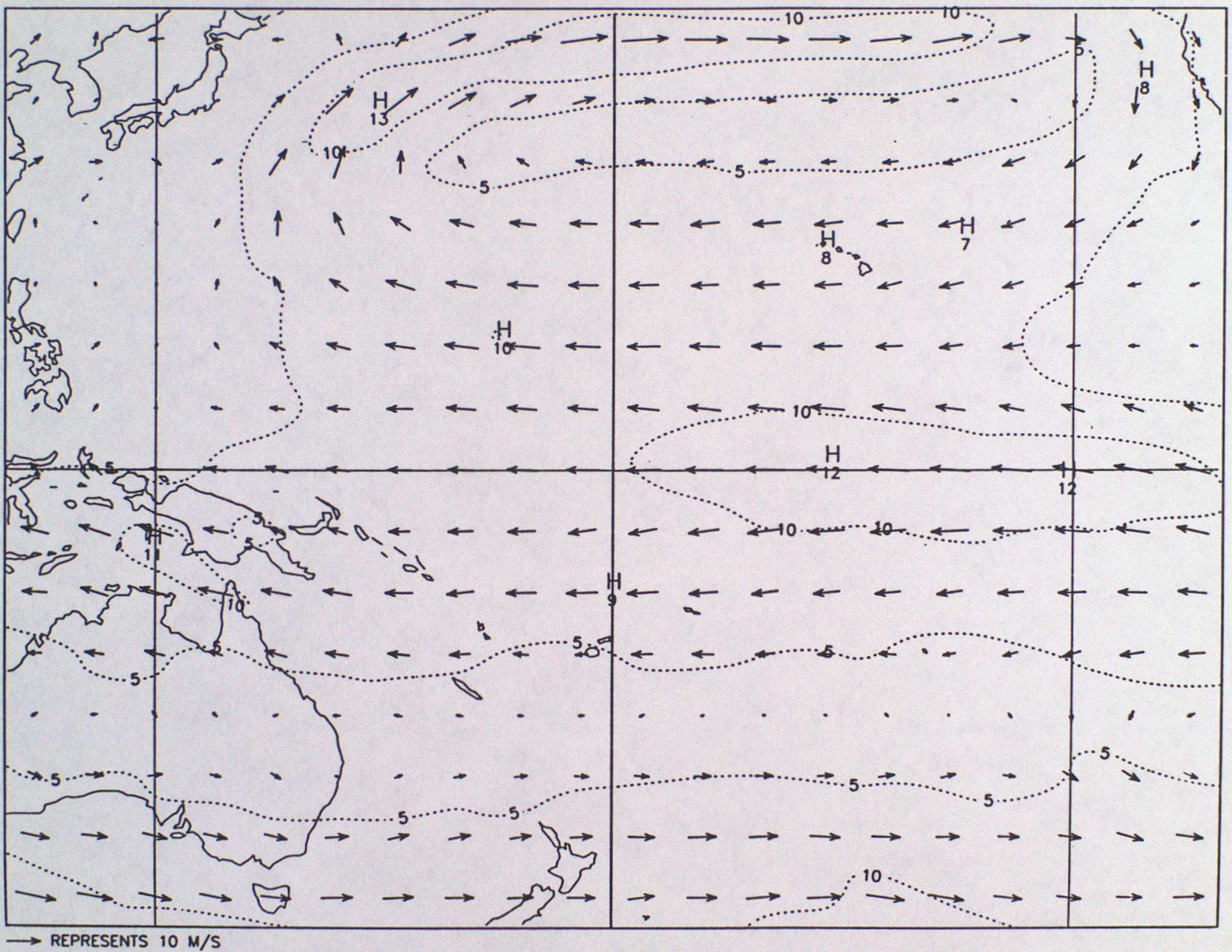
1464
20
L
1449
1464
1476
1488
1500
1512
1524
1536
1548
1560
1572
1584
1596
1608
1620
1632
1644
H
1662
H
1662
20
1656

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

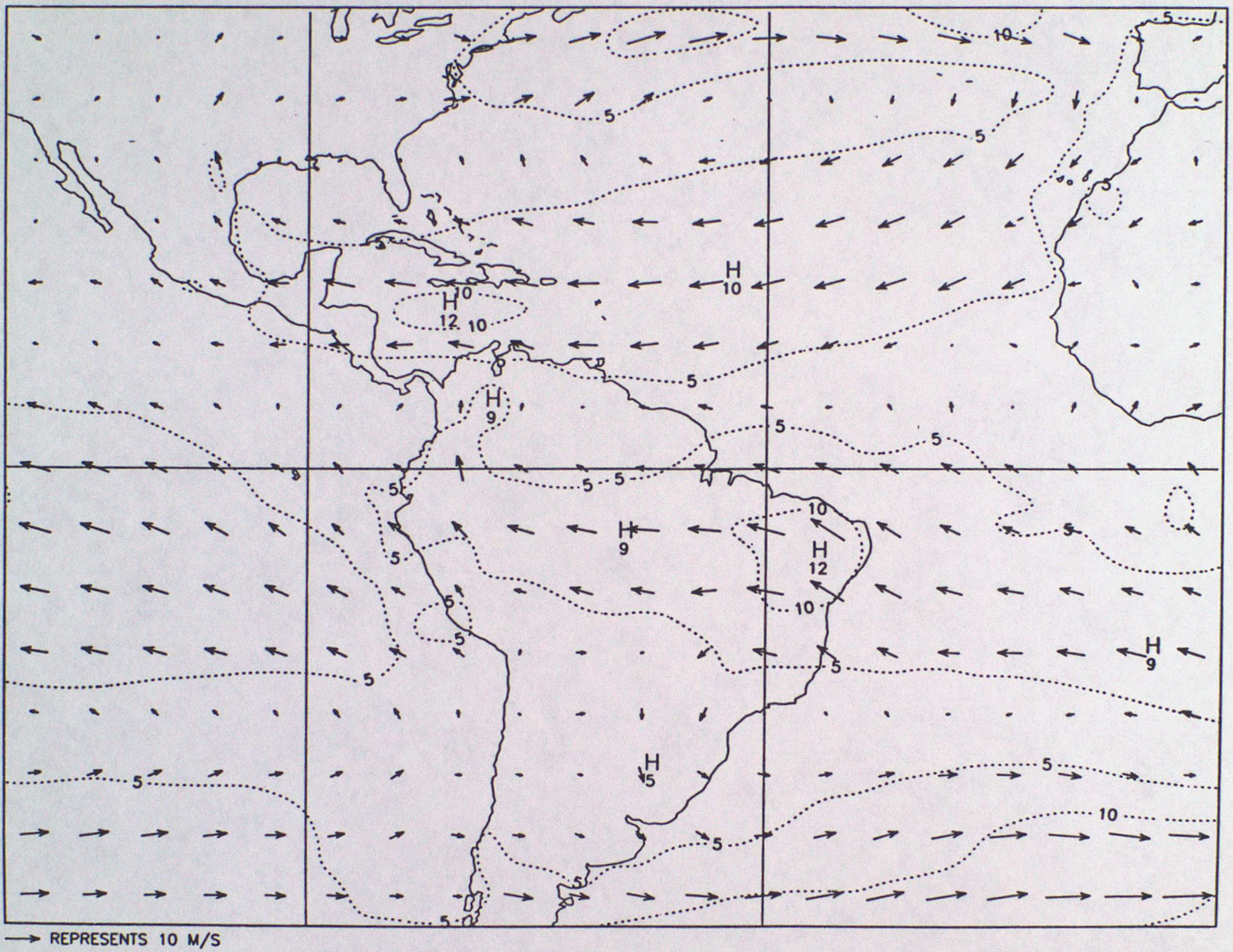
OPERATIONAL ARCHIVE MEANS.   JULY   1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
850 MBS.   BETWEEN LONGS. 0 E - 120 E


H 9
H 8
H 8
H 7
H 8
H 25 28
H 10 13
H 8
H 6
H 11
H 11
H 11
H 8
H 9
5
10
15
20
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS. JULY 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
850 MBS. BETWEEN LONGS. 120 E - 120 W

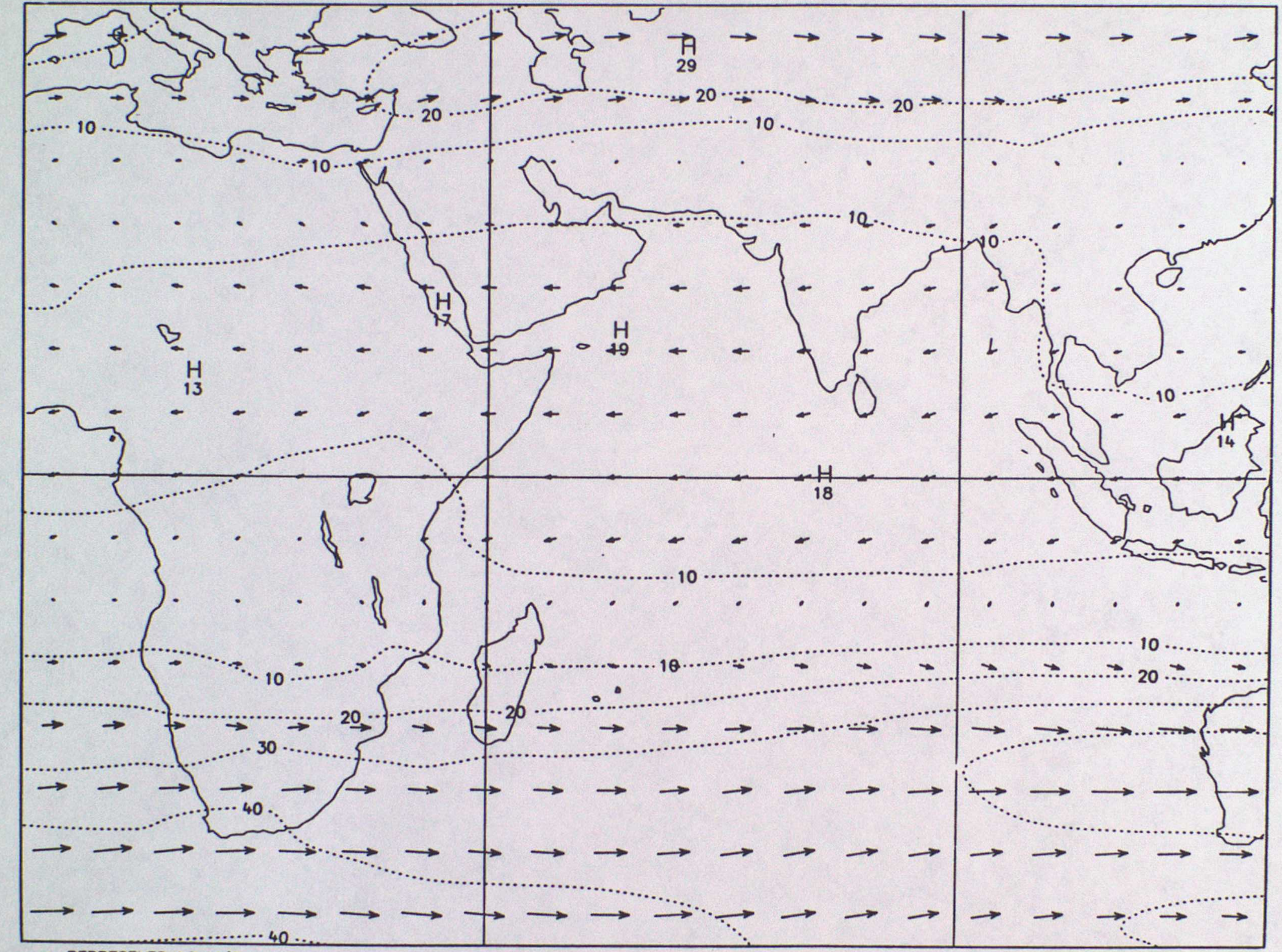

H 13
H 8
H 7
H 8
H 10
H 12
H 11
H 9
12
10
5
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   JULY   1988
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM   0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
850 MBS.   BETWEEN LONGS. 120 W - 0 W



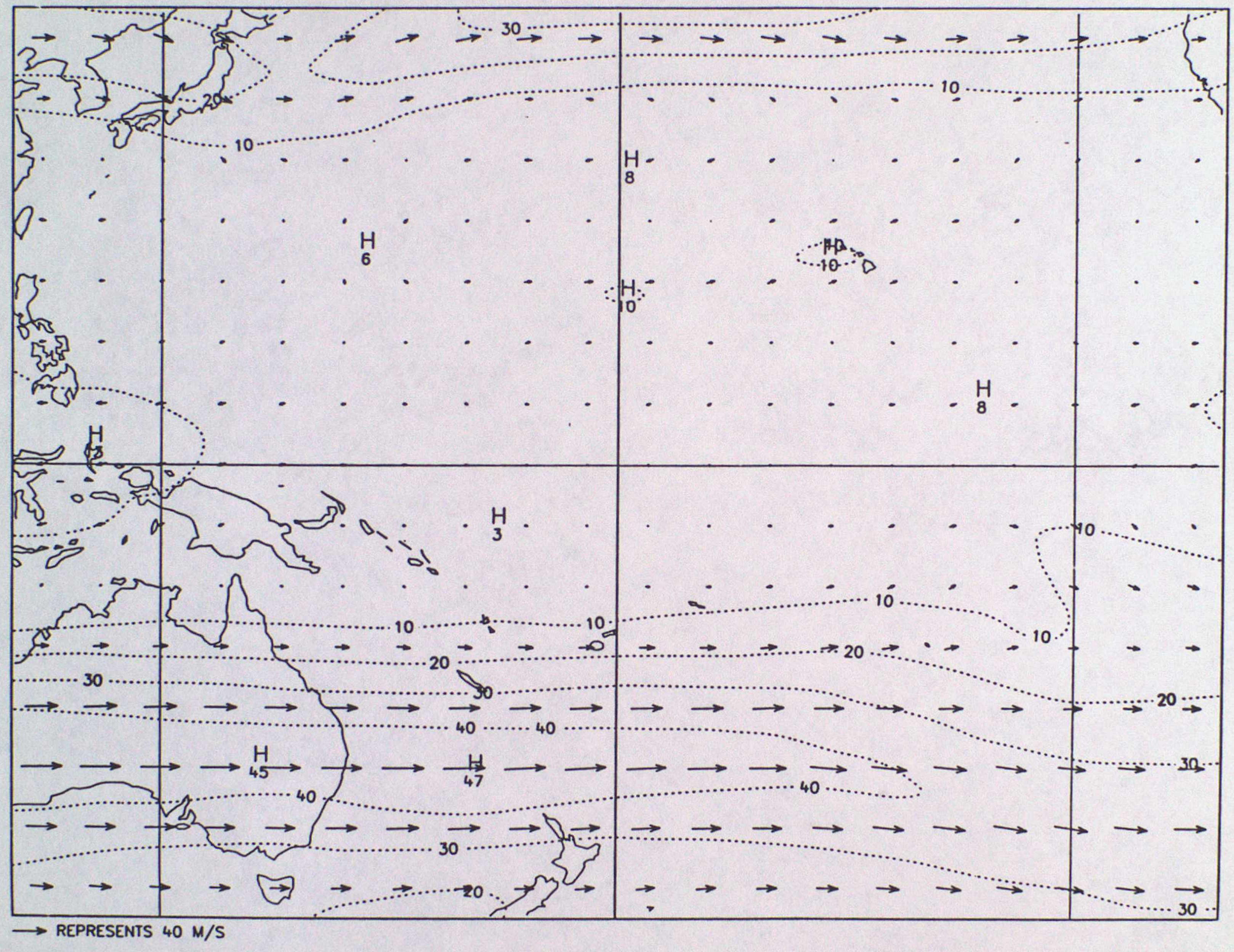
H 10
H 12
10
H 9
H 12
10
H 9
H 5
H 9
5
10
REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS. JULY 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
250 MBS. BETWEEN LONGS. 0 E - 120 E

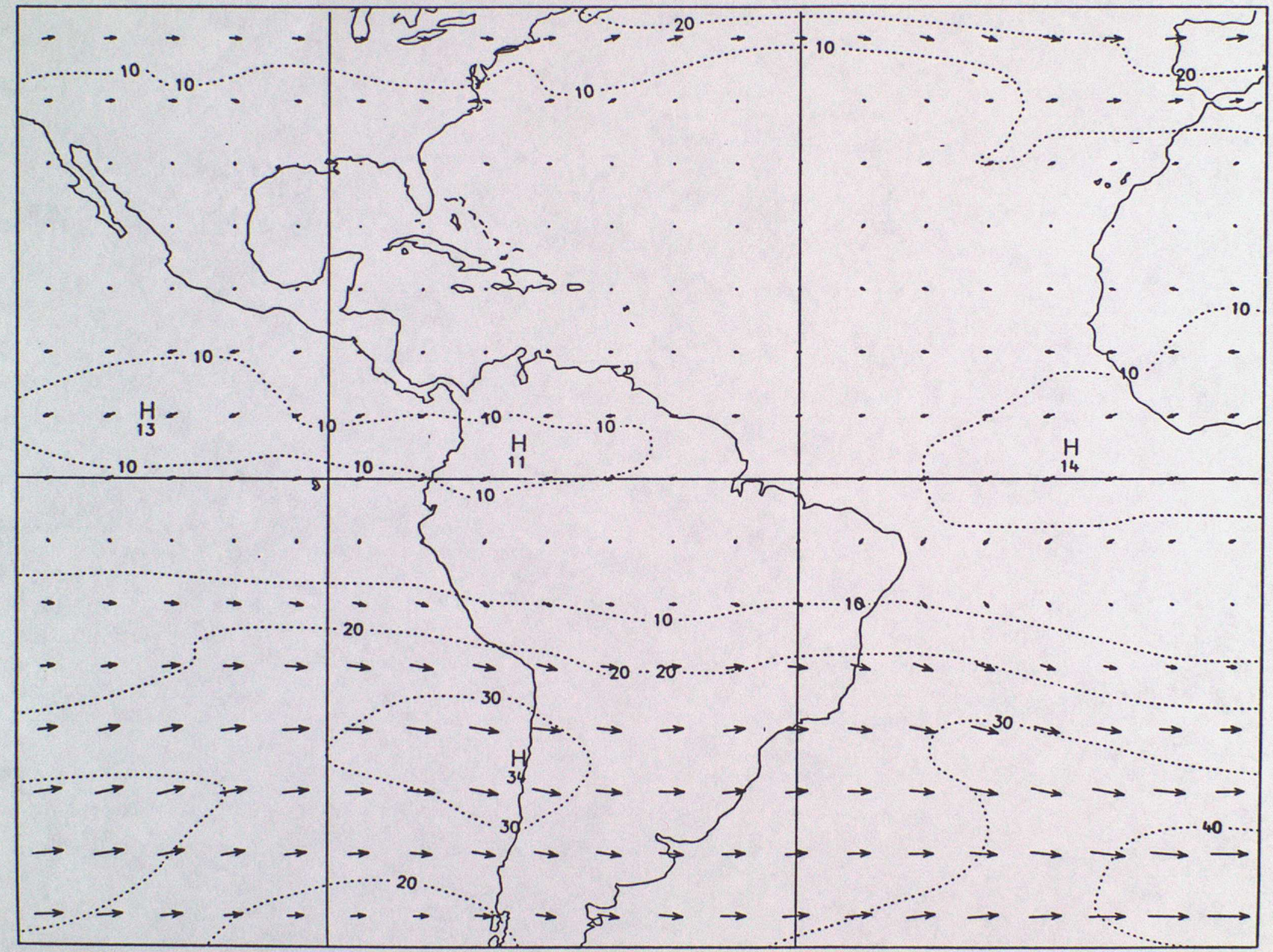

H
29
20
20
20
10
10
10
10
10
H
17
H
19
H
13
L
10
H
14
H
18
10
10
10
20
10
20
20
30
40
40

→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. JULY 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
250 MBS. BETWEEN LONGS. 120 E - 120 W


30
20
10
H 8
H 6
H 10
10
H 8
H 3
10
20
30
40
H 45
H 47
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. JULY 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/7/1988 DAY 183 TO 12Z ON 31/7/1988 DAY 213
250 MBS. BETWEEN LONGS. 120 W - 0 W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10
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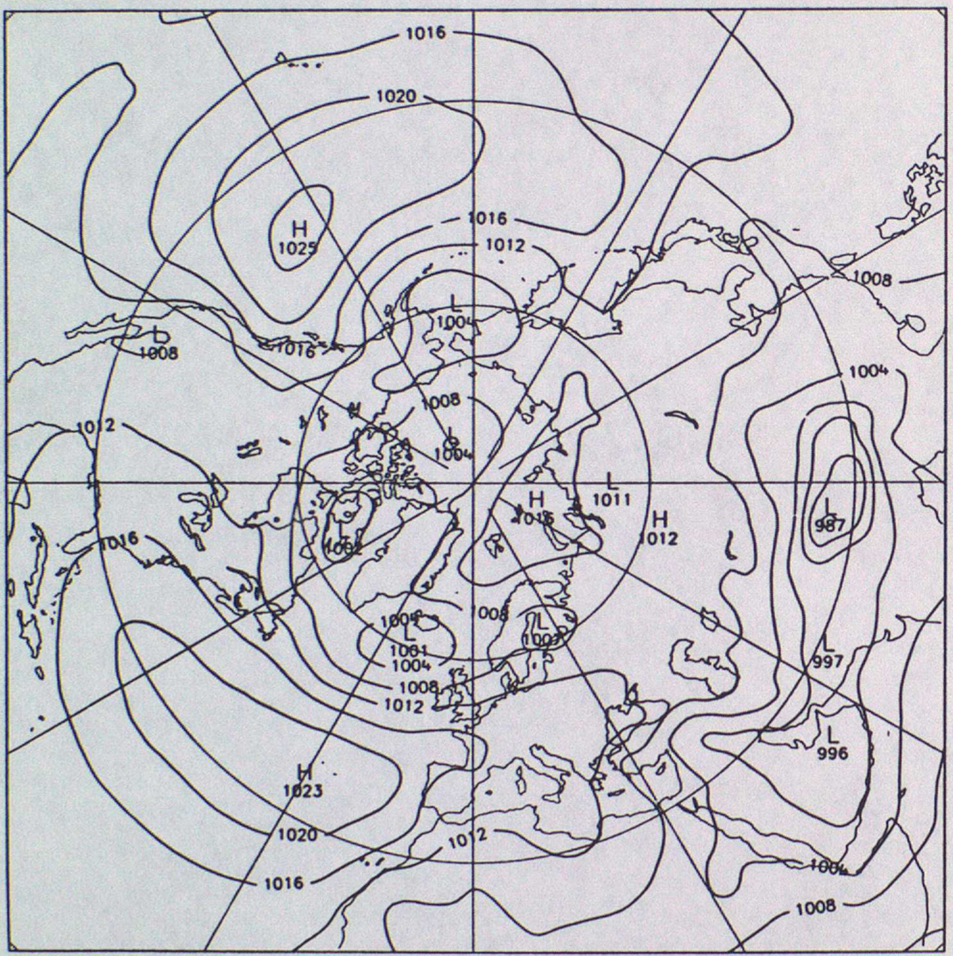
10
H
13
10
10
10
H
11
10
10
10
H
14
10
10
10
20
20
20
30
30
H
34
30
20
40

→ REPRESENTS 40 M/S

AUGUST
1988

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
PMSL
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
SEA LEVEL


1016
1020
H
1025
1016
1012
L
1004
1008
1016
1012
1008
L
1004
L
1011
H
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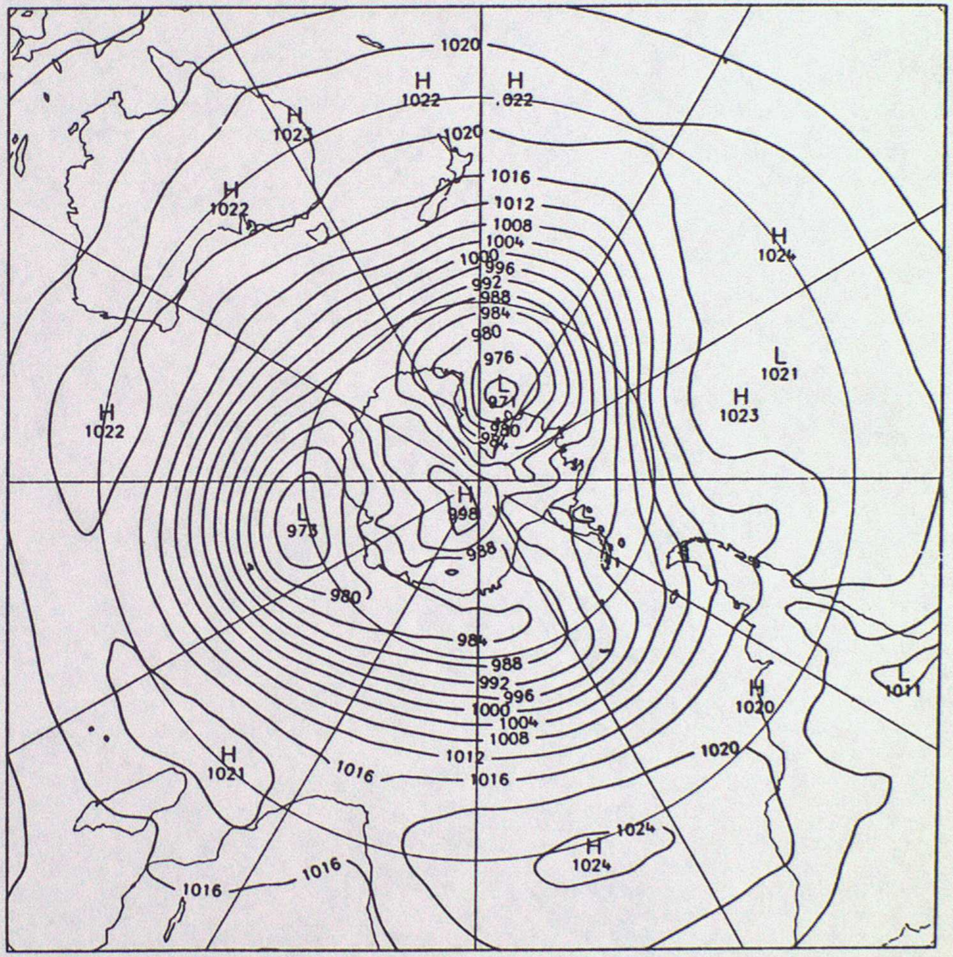
H
1012
L
1002
1016
L
987
1004
1008
1008
L
1001
1004
1008
1012
1003
1008
L
997
L
996
H
1023
1020
1016
1012
1004
1008

CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
PMSL
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
SEA LEVEL -


1020
H
1022
H
.022
H
1021
H
1022
1020
1016
1012
1008
1004
1000
996
992
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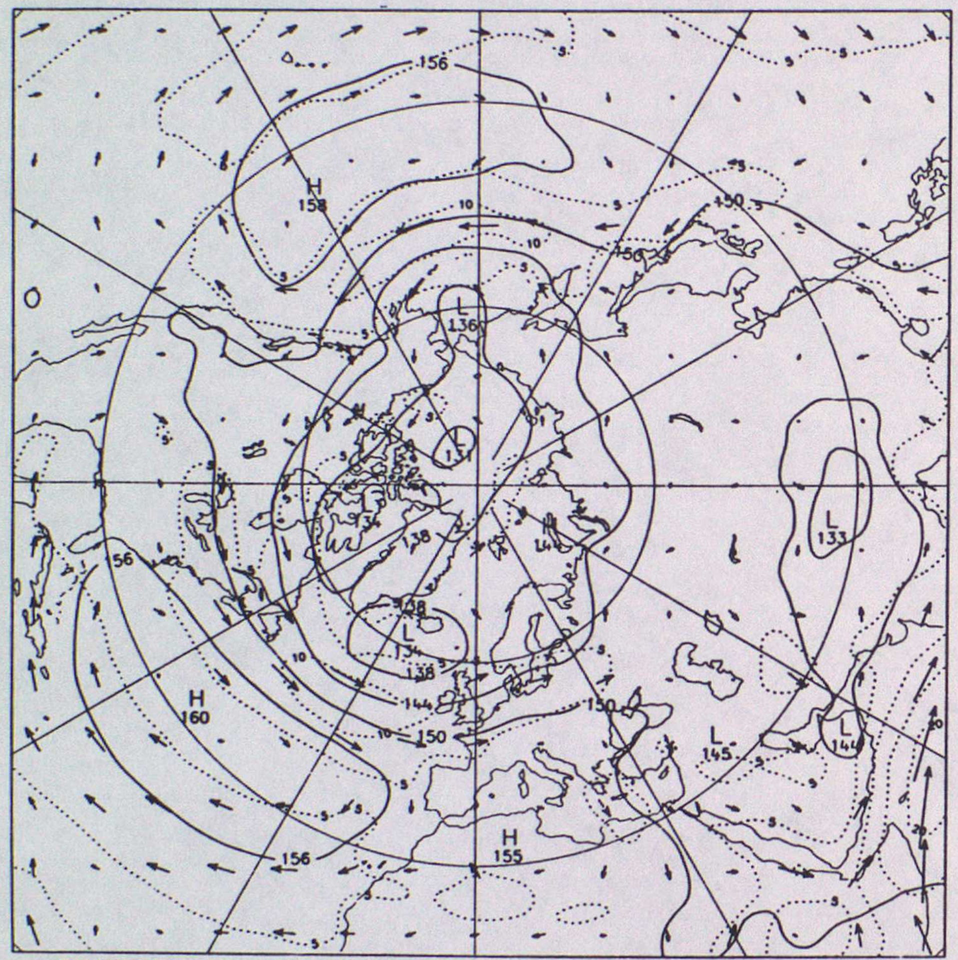
984
980
976
L
971
H
1024
L
1021
H
1023
H
1022
L
973
H
998
988
980
984
988
992
996
1000
1004
1008
1012
1016
L
1011
H
1020
1020
H
1021
1016
1016
1016
H
1024
1024

CONTOUR INTERVAL: 4 MB UNITS: MB

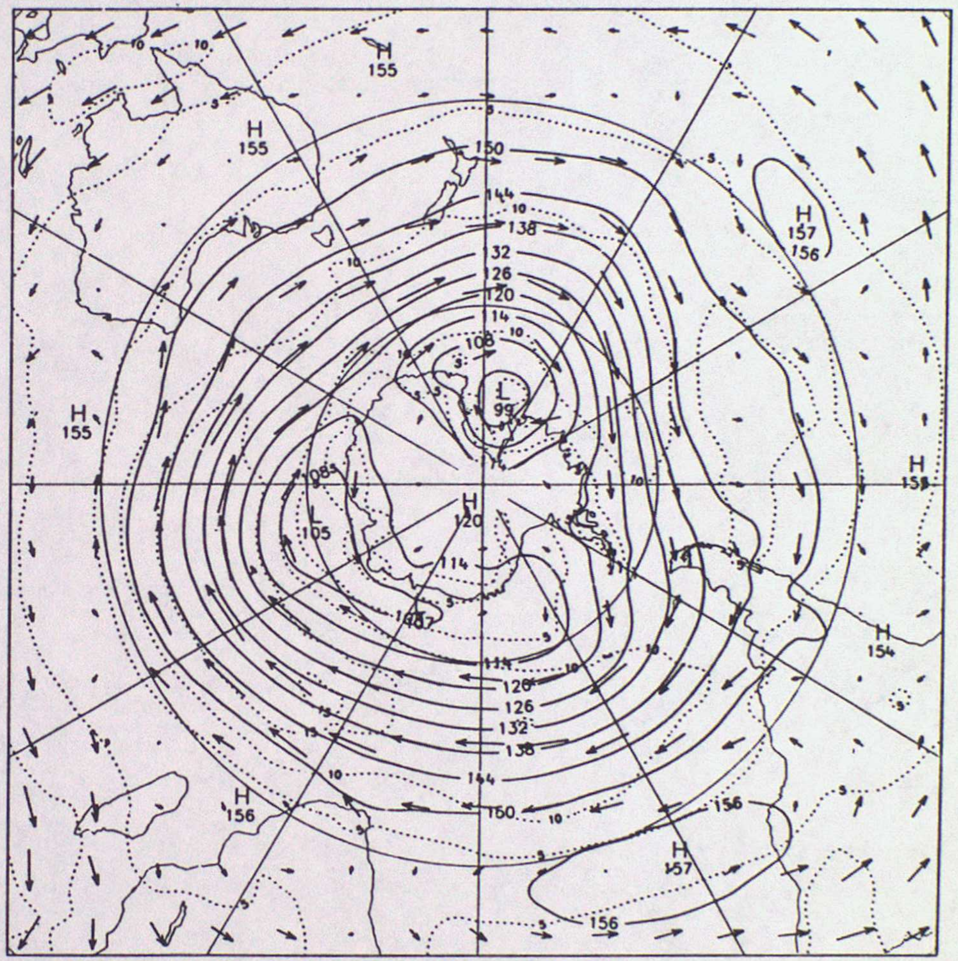
OPERATIONAL ARCHIVE MEANS. AUGUST 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 850 MB



156
H 158
L 136
150
L 133
L 145
L 144
138
144
150
H 160
H 155
156
10
5

→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

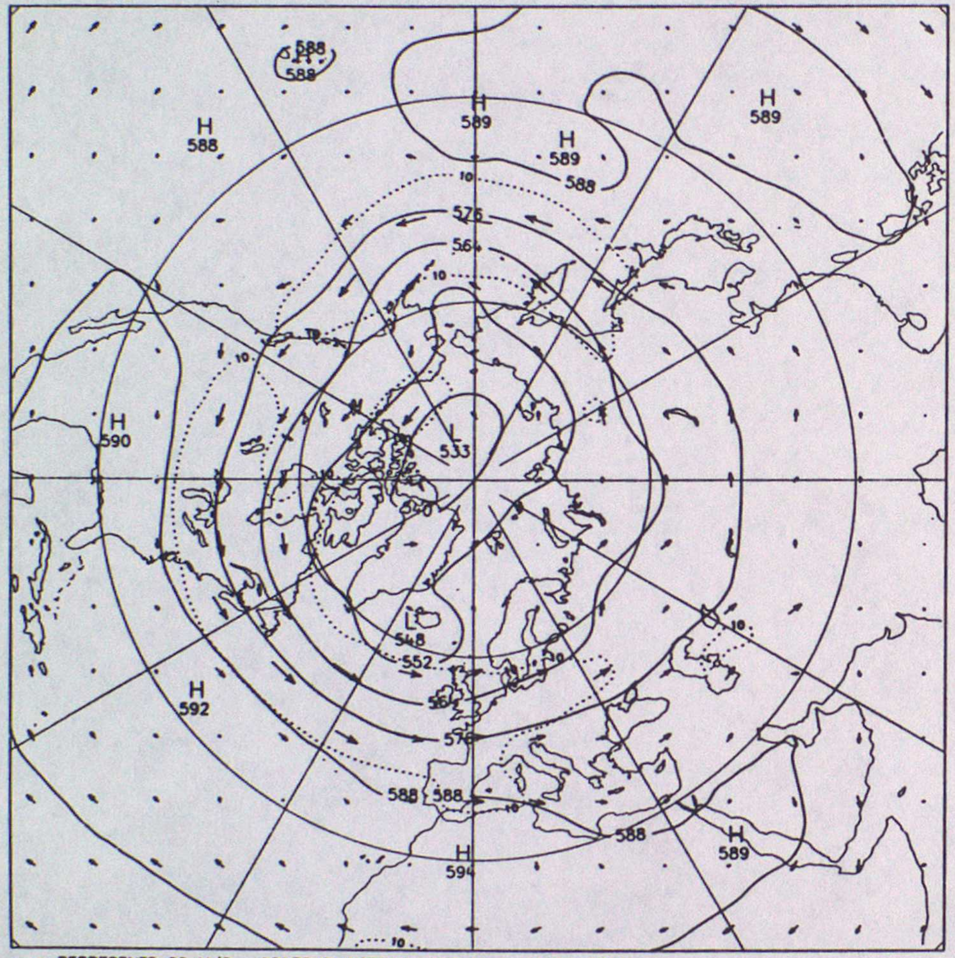
OPERATIONAL ARCHIVE MEANS. AUGUST 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 850 MB



H 155
H 155
H 155
150
144
138
132
126
120
114
108
L 99
H 157 156
H 158
H 120
L 105
114
120
126
132
138
144
150
H 154
H 156
156
H 157
156
10
5

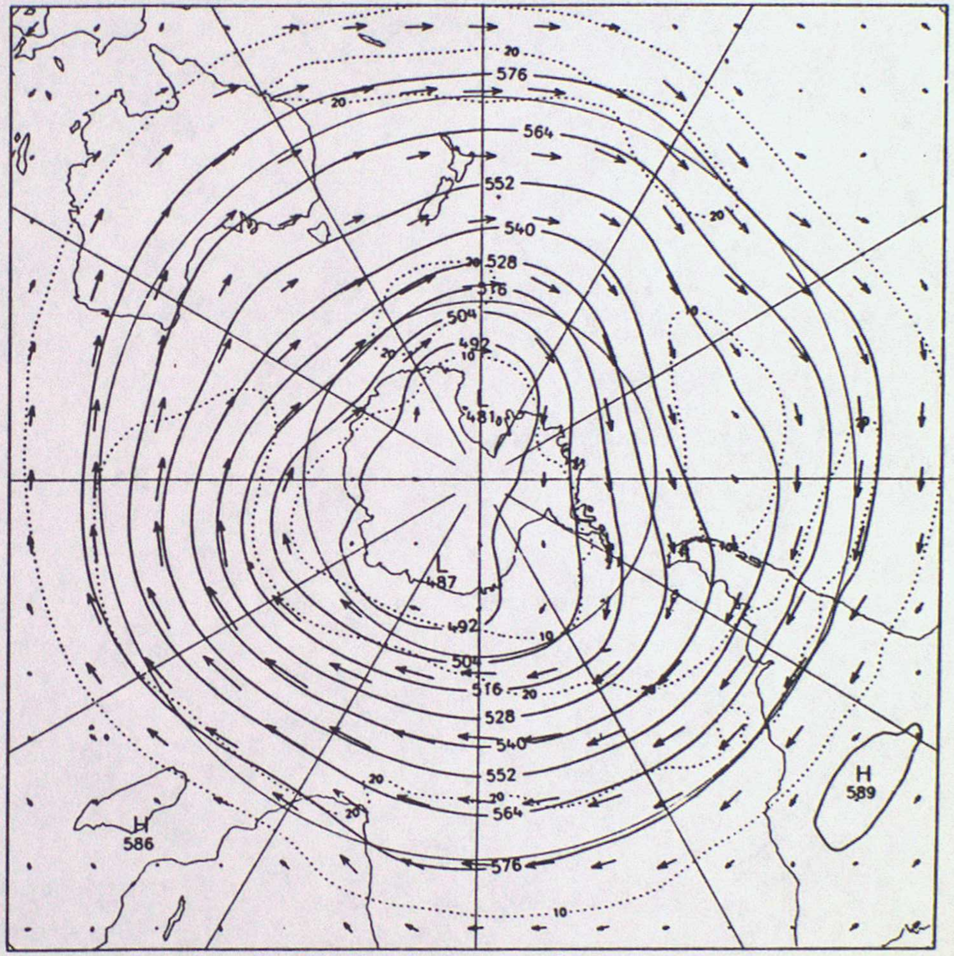
→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 500 MB


H
588
H
589
H
589
H
589
H
590
H
592
H
594
H
589
L
533
L
548
588
576
564
552
588
10

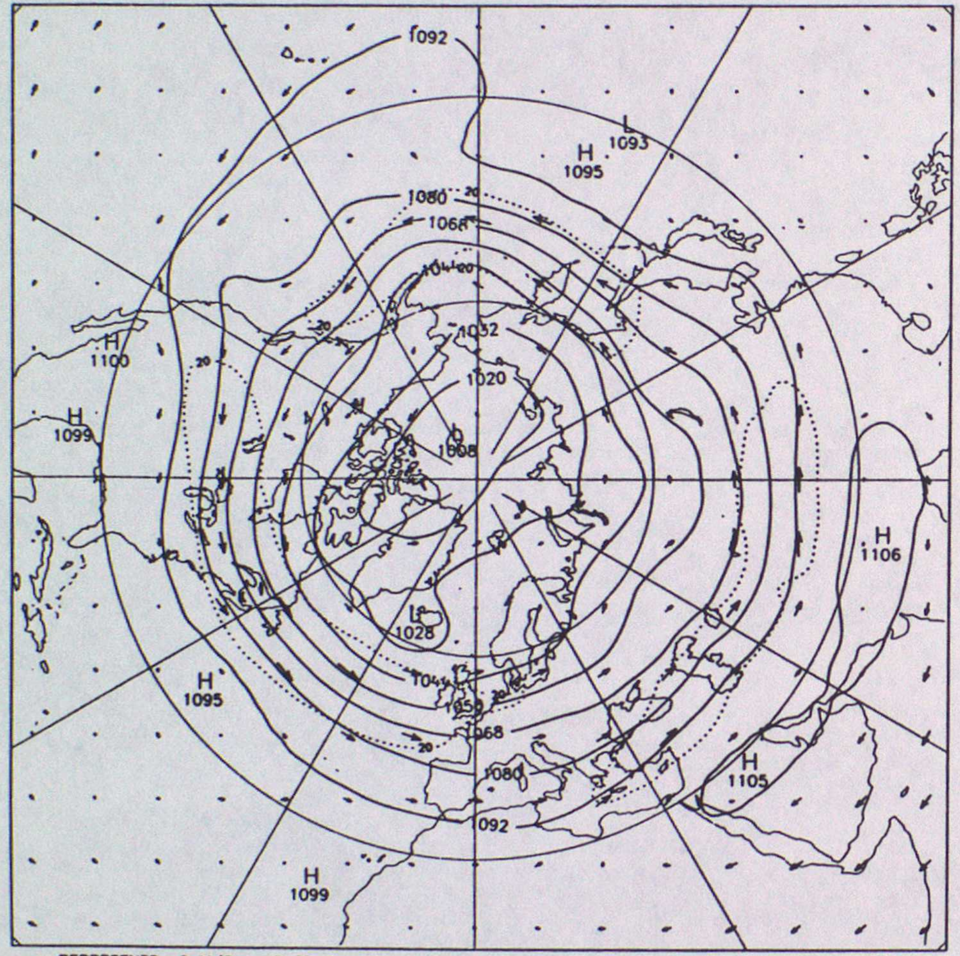
→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 500 MB


576
564
552
540
528
516
504
492
L
481
L
487
H
586
H
589
20
10

→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 250 MB


1092
L
1093
H
1095
1080
1068
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1032
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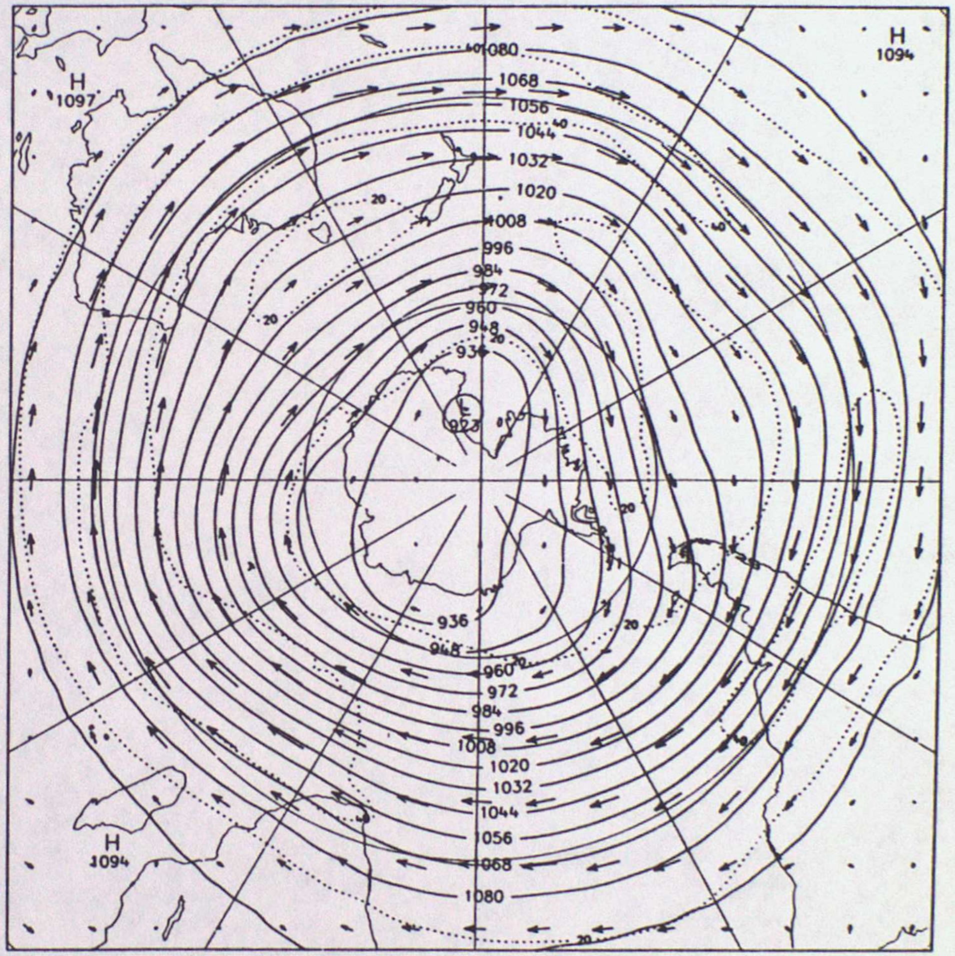
L
1008
H
1100
H
1099
H
1106
L
1028
H
1095
1044
1056
1068
1080
H
1105
1092
H
1099
20

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 250 MB


H
1097
H
1094
1080
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1056
1044
1032
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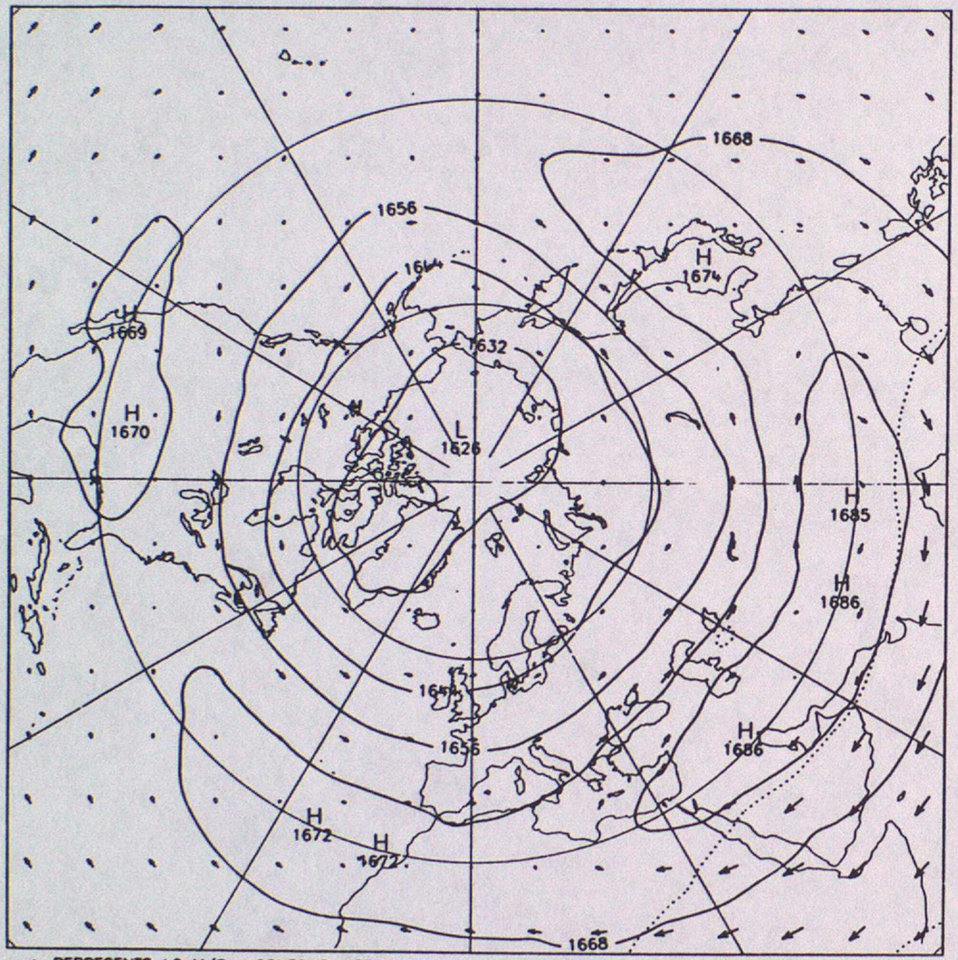
1008
996
984
972
960
948
936
L
923
936
948
960
972
984
996
1008
1020
1032
1044
1056
1068
1080
H
1094
20
40

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   AUGUST   1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 100 MB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1644
1632
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1674
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1669
H
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H
1685
H
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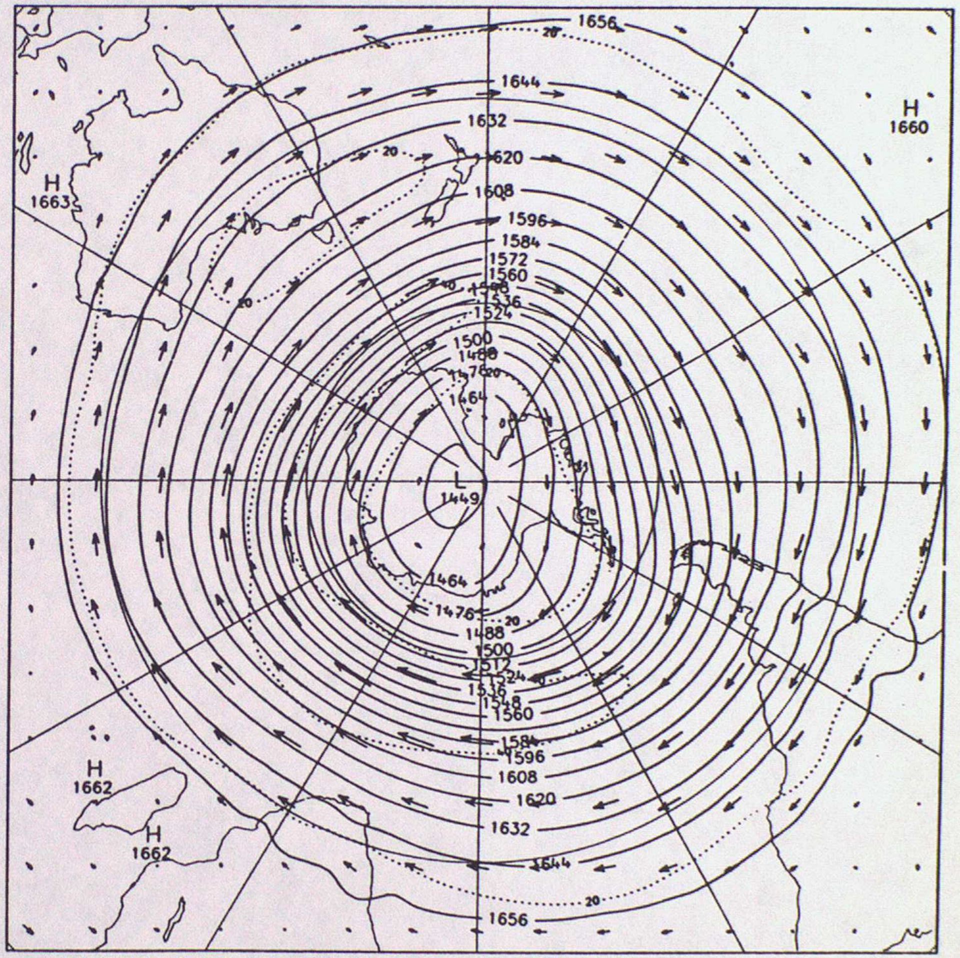
1686
1644
1656
H
1672
H
1672
1668

→ REPRESENTS 40 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   AUGUST   1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 100 MB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1572
1560
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1524
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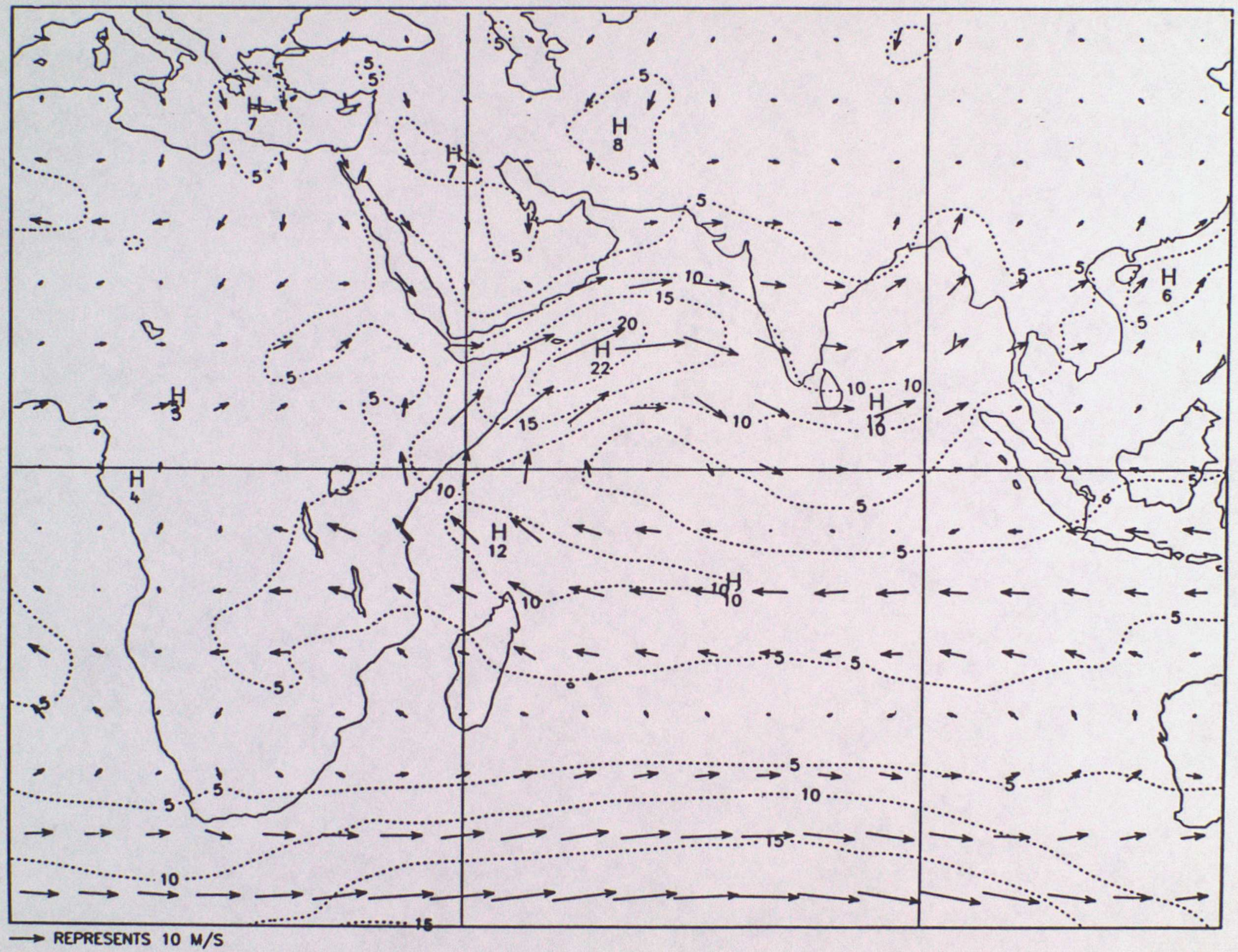
1488
1476
20
1464
H
1660
H
1663
L
1449
1464
1476
20
1488
1500
1512
1524
1536
1548
1560
1584
1596
1608
1620
1632
1644
20
1656
H
1662
H
1662

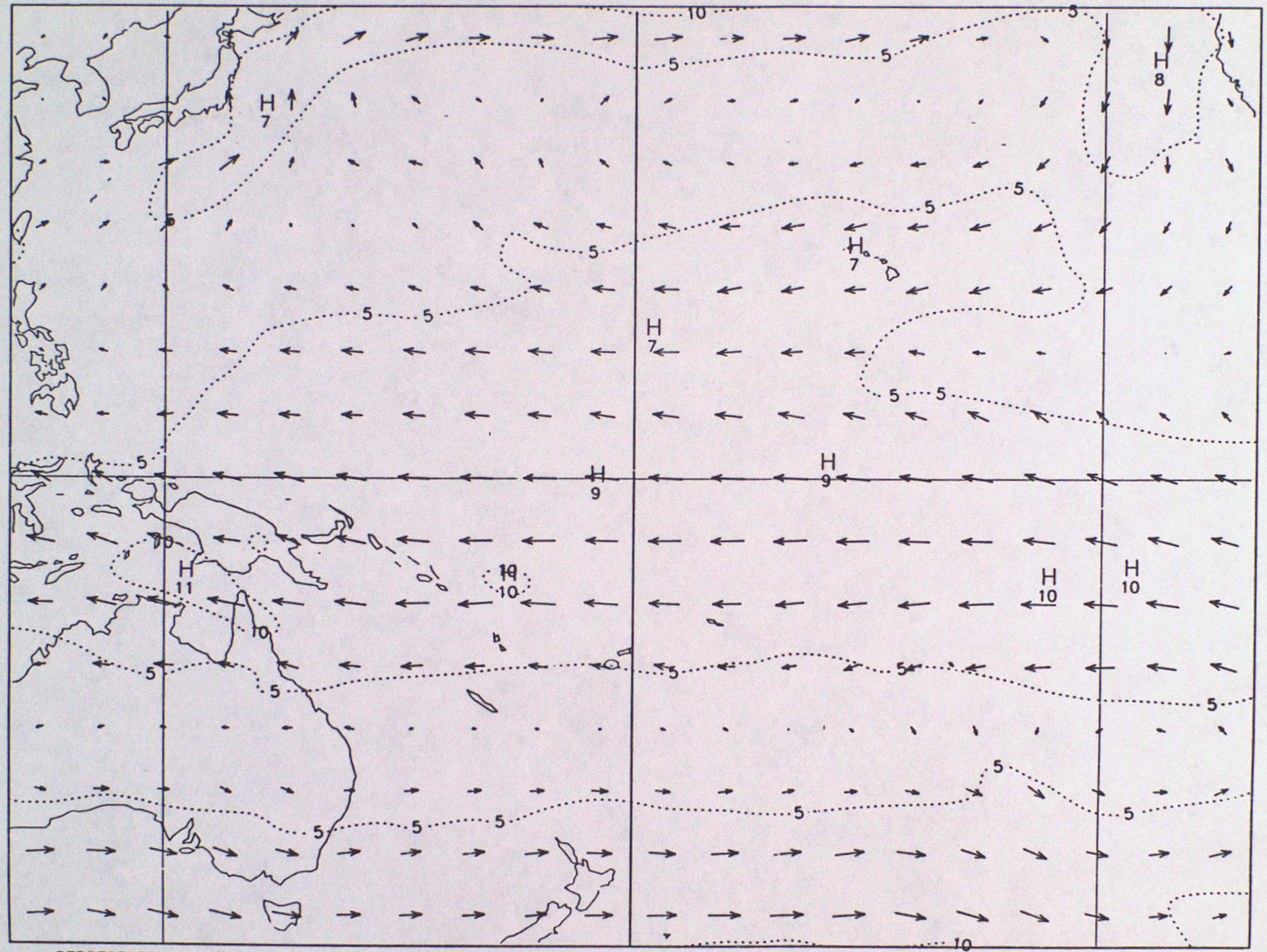
→ REPRESENTS 40 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   AUGUST   1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
850 MBS.   BETWEEN LONGS. 0 E - 120 E



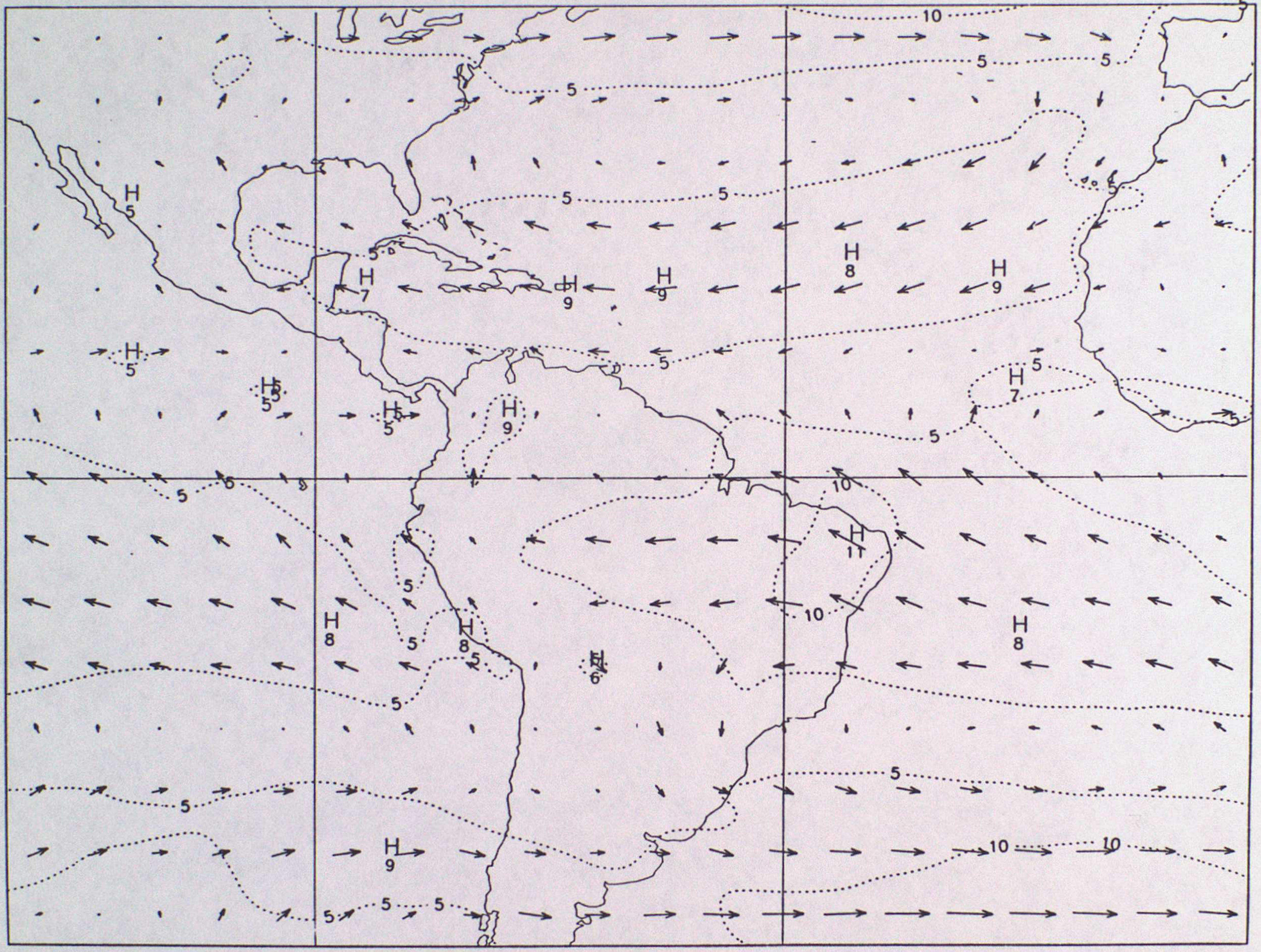
H 7
H 7
H 8
H 6
H 22
20
15
10
H 12
H 3
H 4
H 12
H 10
5
15
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
850 MBS. BETWEEN LONGS. 120 E - 120 W


H 7
H 8
H 7
H 7
H 9
H 9
H 11
H 10
H 10
H 10
5
10

→ REPRESENTS 10 M/S

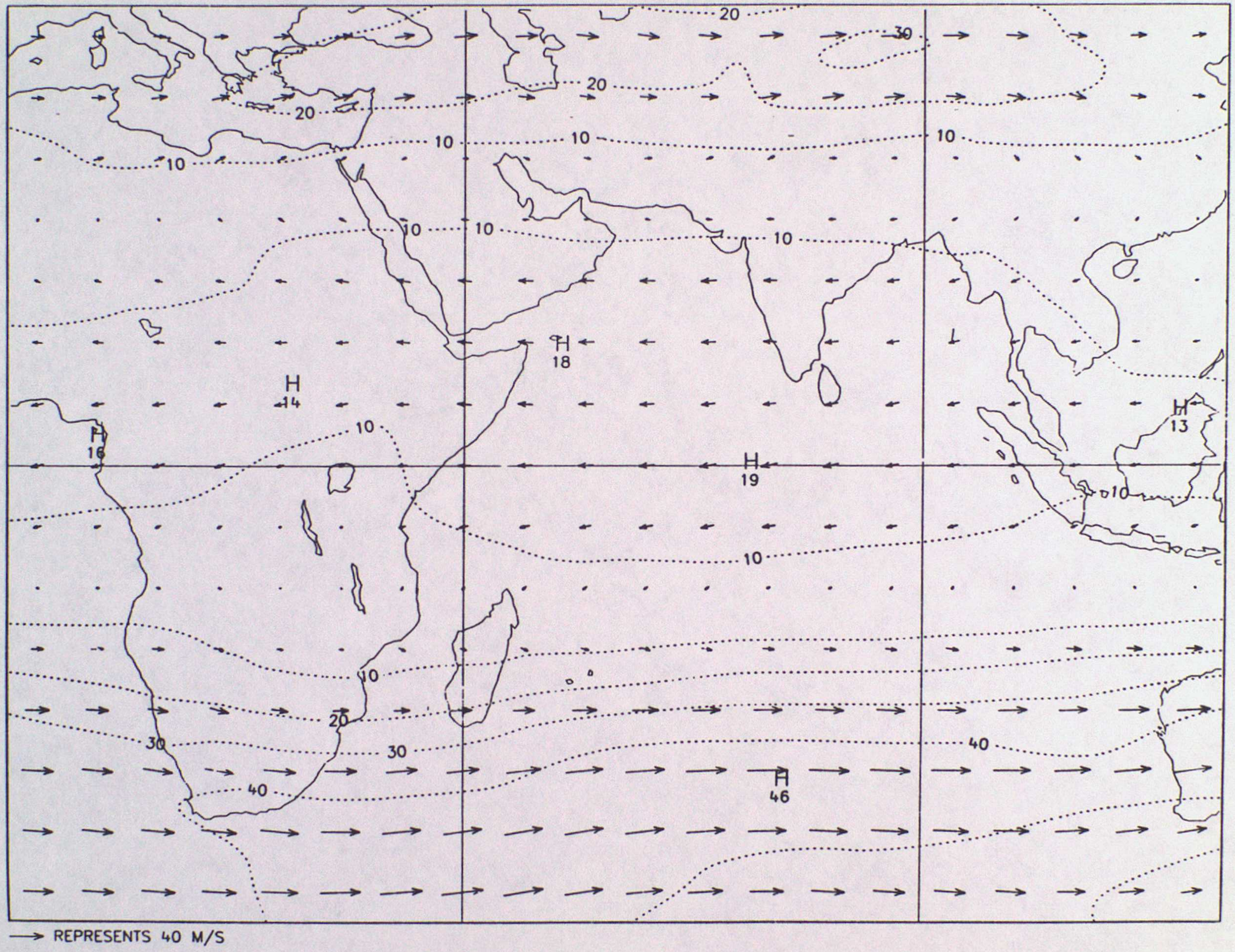
OPERATIONAL ARCHIVE MEANS. AUGUST 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
850 MBS. BETWEEN LONGS. 120 W - 0 W



10
5
H 5
H 7
H 9
H 8
H 11
H 6
10
5

→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   AUGUST   1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
250 MBS.   BETWEEN LONGS. 0 E - 120 E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30
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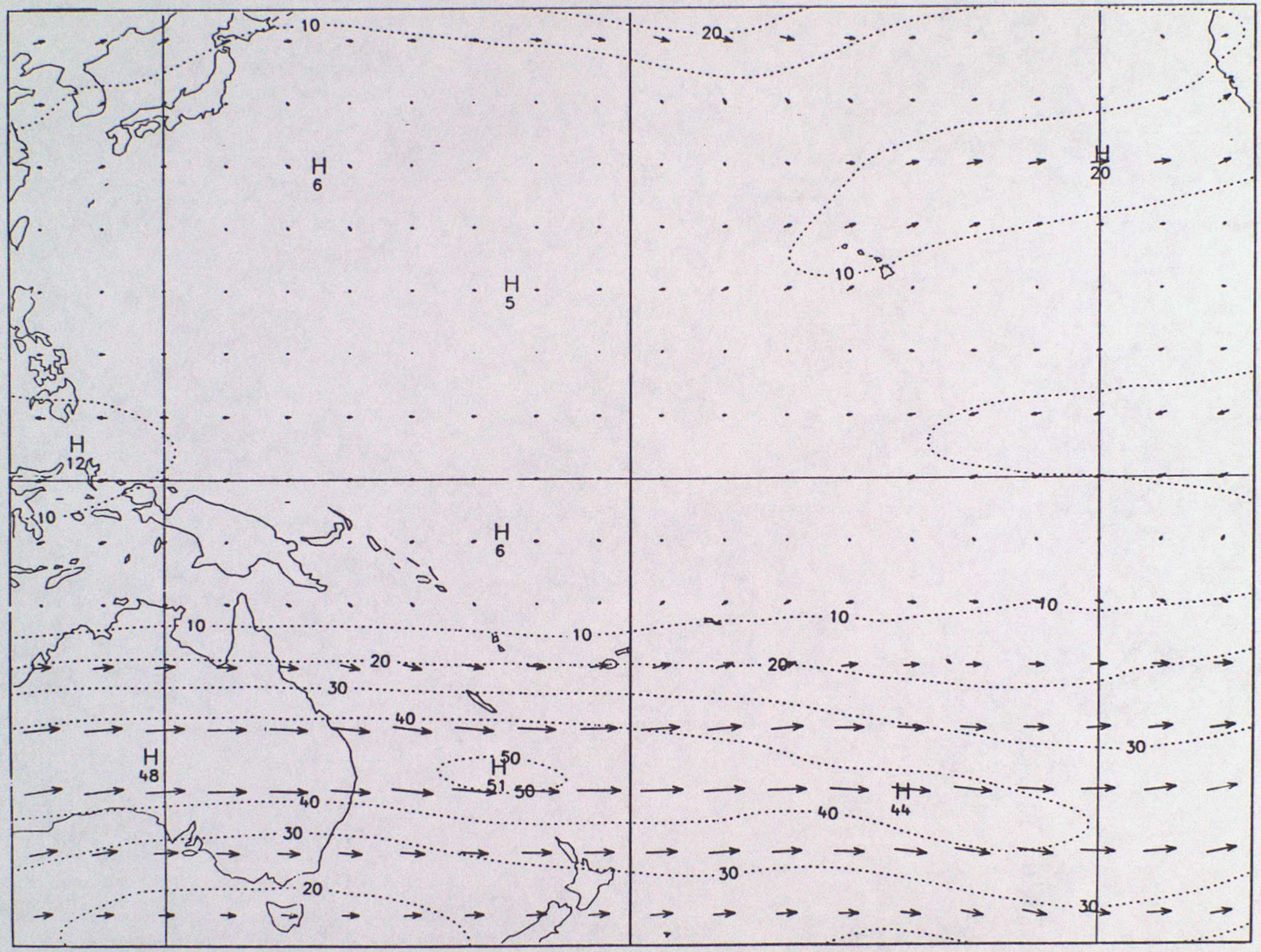
10
10
10
10
10
10
10
10
H 18
L
H 14
H 16
10
H 13
H 19
10
10
10
20
30
30
40
H 46
40
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
250 MBS. BETWEEN LONGS. 120 E - 120 W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H
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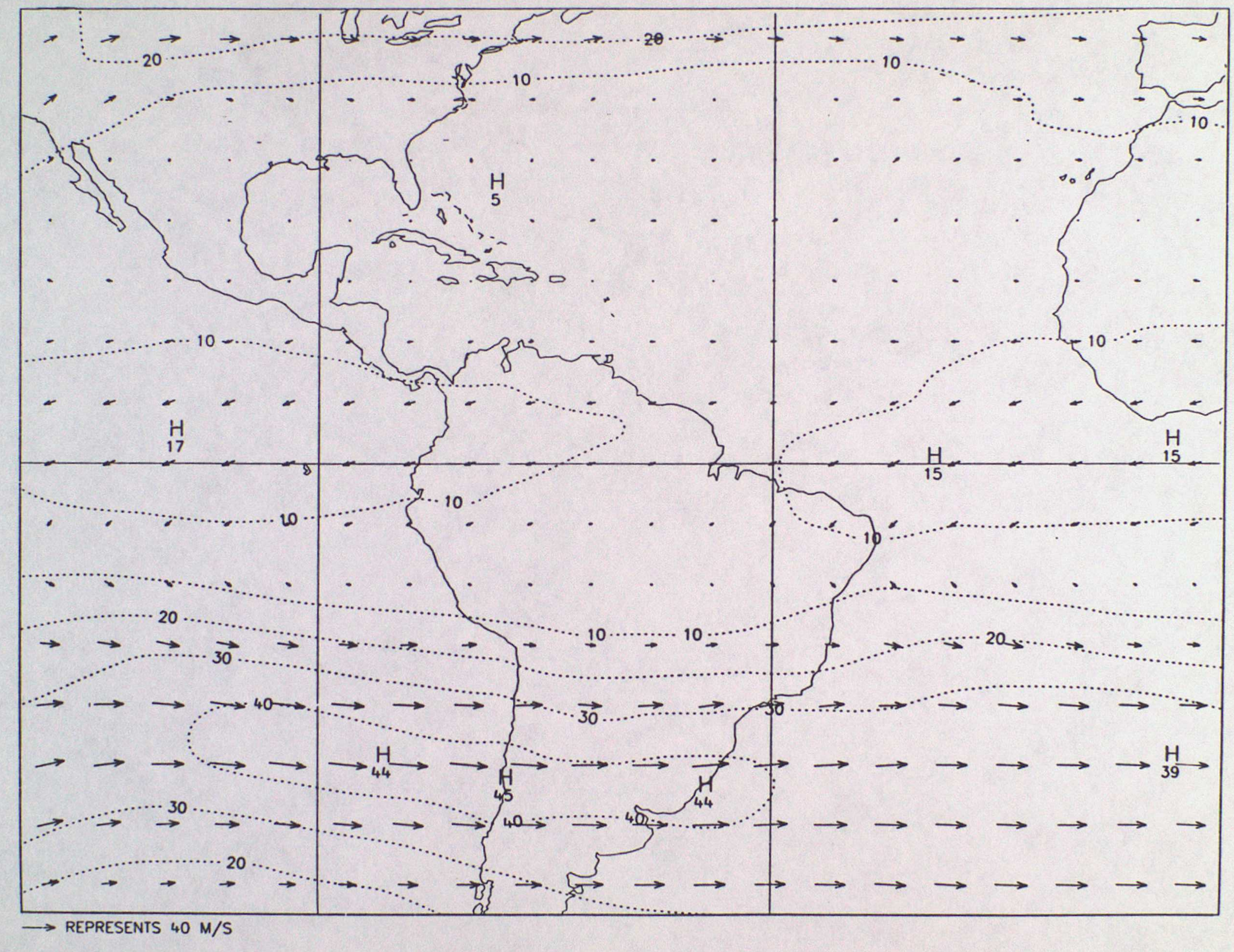
30
40
H
48
50
H
51
50
40
H
44
40
30
30
30
20
30

→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. AUGUST 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/8/1988 DAY 214 TO 12Z ON 31/8/1988 DAY 244
250 MBS. BETWEEN LONGS. 120 W - 0 W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H 5
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H 17
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20
30
40
30
30
H 44
H 45
H 44
H 39
30
40
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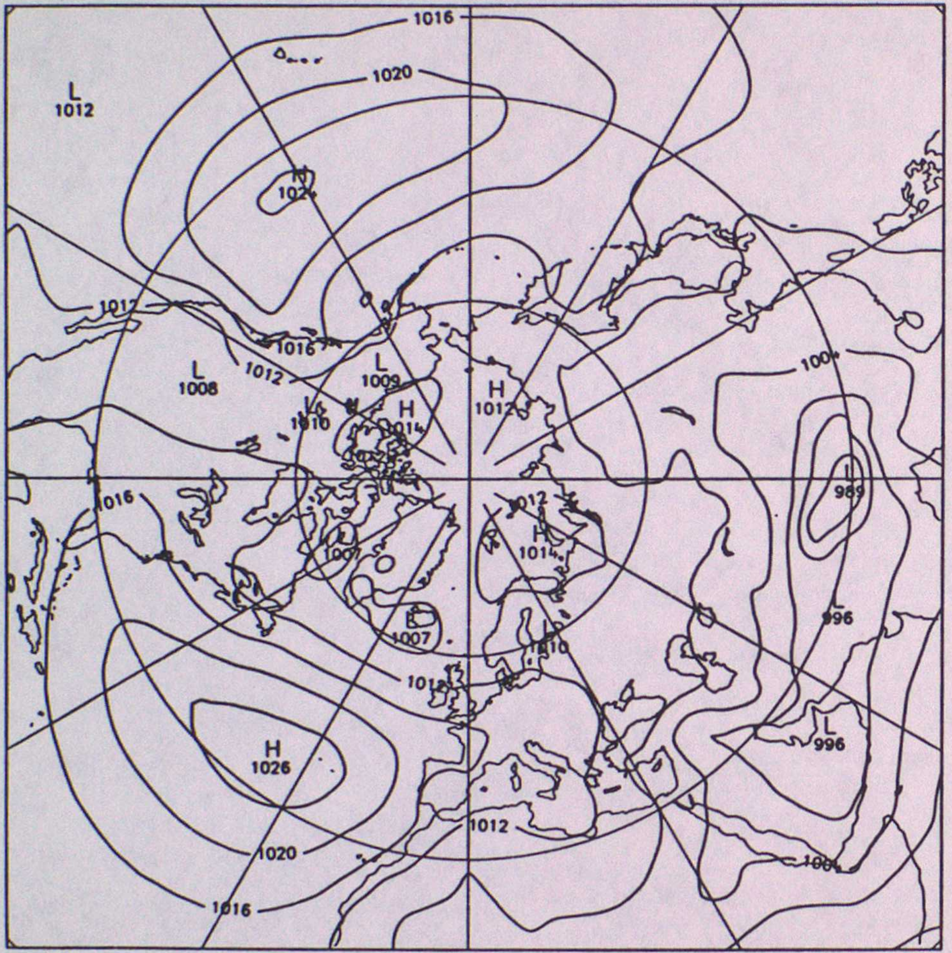
20
→ REPRESENTS 40 M/S

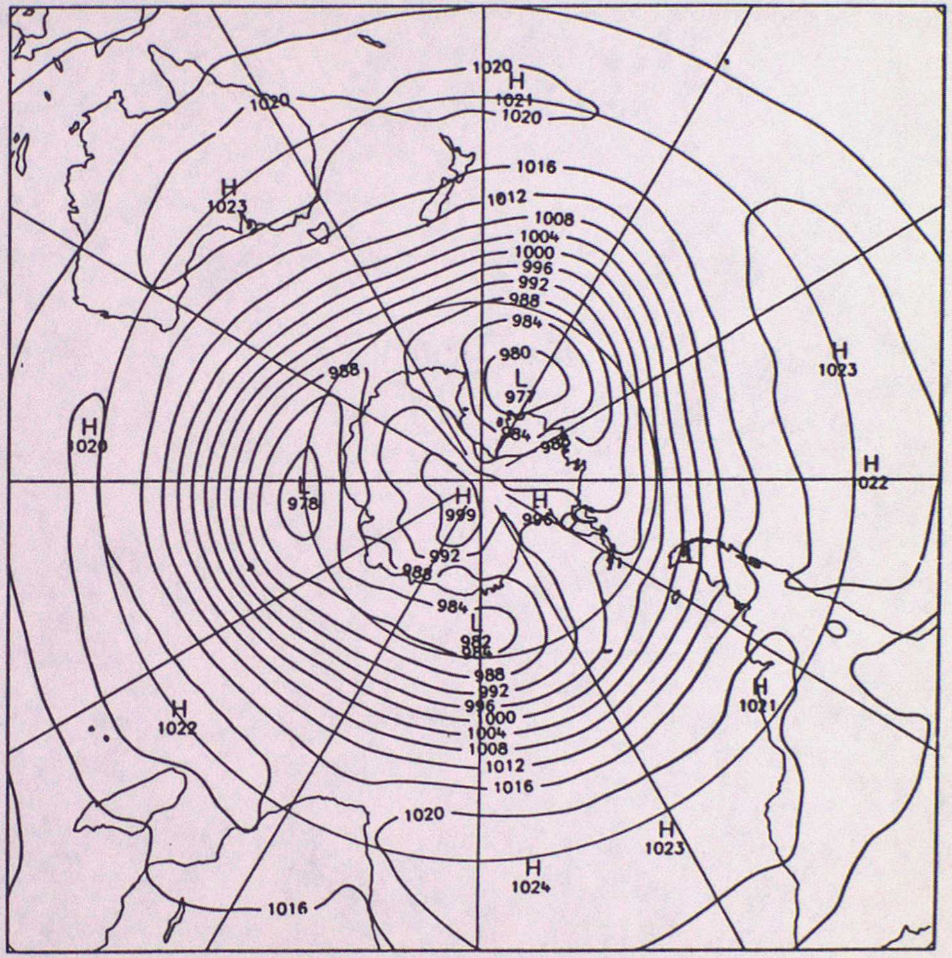
JUNE/JULY/AUGUST
1988

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
PMSL
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
SEA LEVEL


L 1012
1016
1020
H 1024
1012
1016
L 1008
1012
L 1009
L 1010
H 1014
H 1012
1004
L 989
1016
1007
1007
1012
H 1014
1010
1012
L 996
L 996
H 1026
1020
1016
1012
1004

CONTOUR INTERVAL: 4 MB   UNITS: MB

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
PMSL
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
SEA LEVEL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H 1021
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1020
1016
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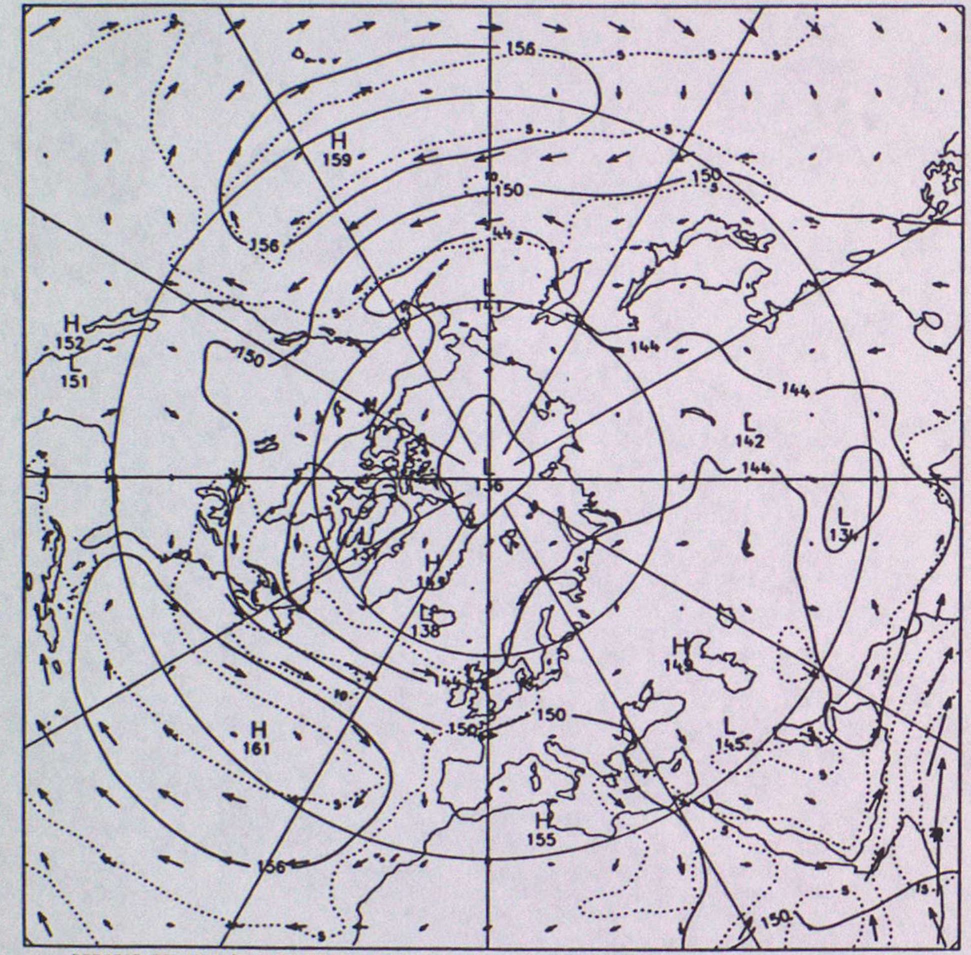
1008
1004
1000
996
992
988
984
980
L 977
H 1023
988
H 1023
H 1020
L 978
H 999
H 996
992
988
984
L 982
988
992
996
1000
1004
1008
1012
1016
1020
H 1022
H 1022
H 1021
H 1023
H 1024
1016

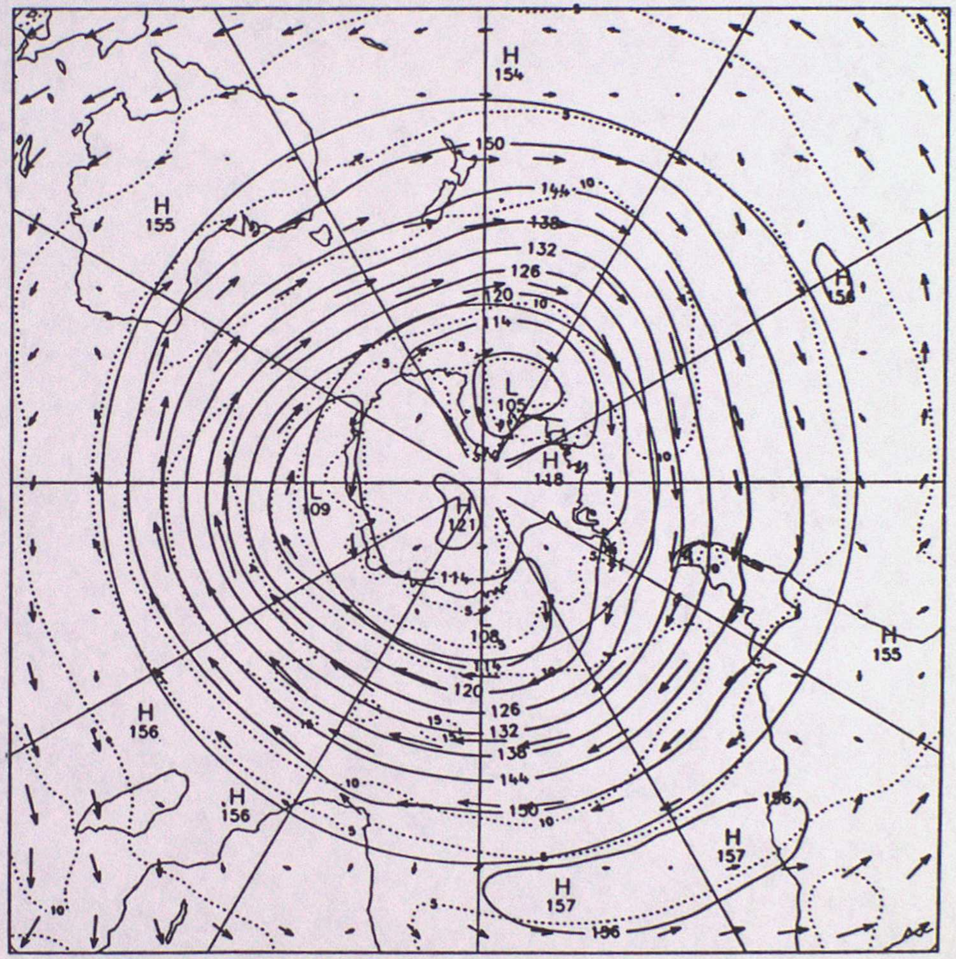
CONTOUR INTERVAL: 4 MB   UNITS: MB

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 850 MB


H 159
156
150
H 152
L 151
144
L 142
L 134
L 136
L 138
H 149
L 145
H 161
H 155
5
10
15

→ REPRESENTS 10 M/S   CONTOUR INTERVAL: 60 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 850 MB


H 154
150
144
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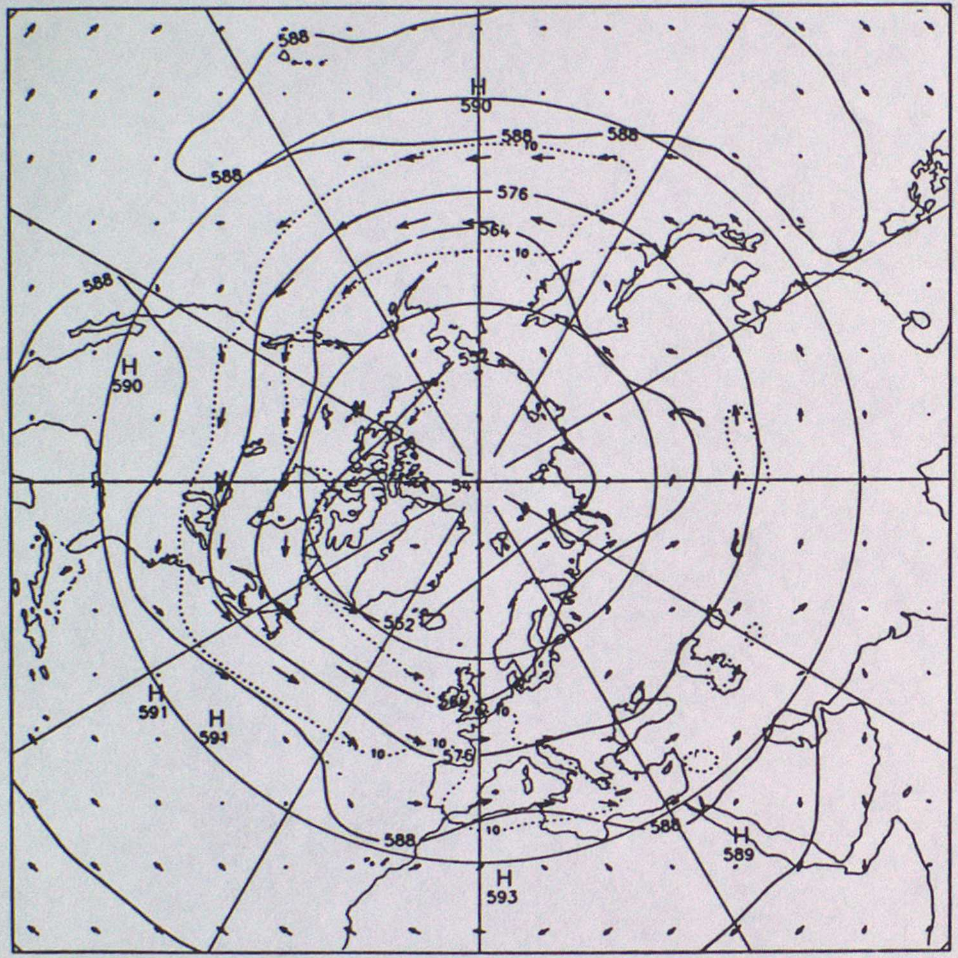
132
126
120
114
108
L 105
H 118
L 109
H 121
H 155
H 156
H 157
156
H 158
5
10
15

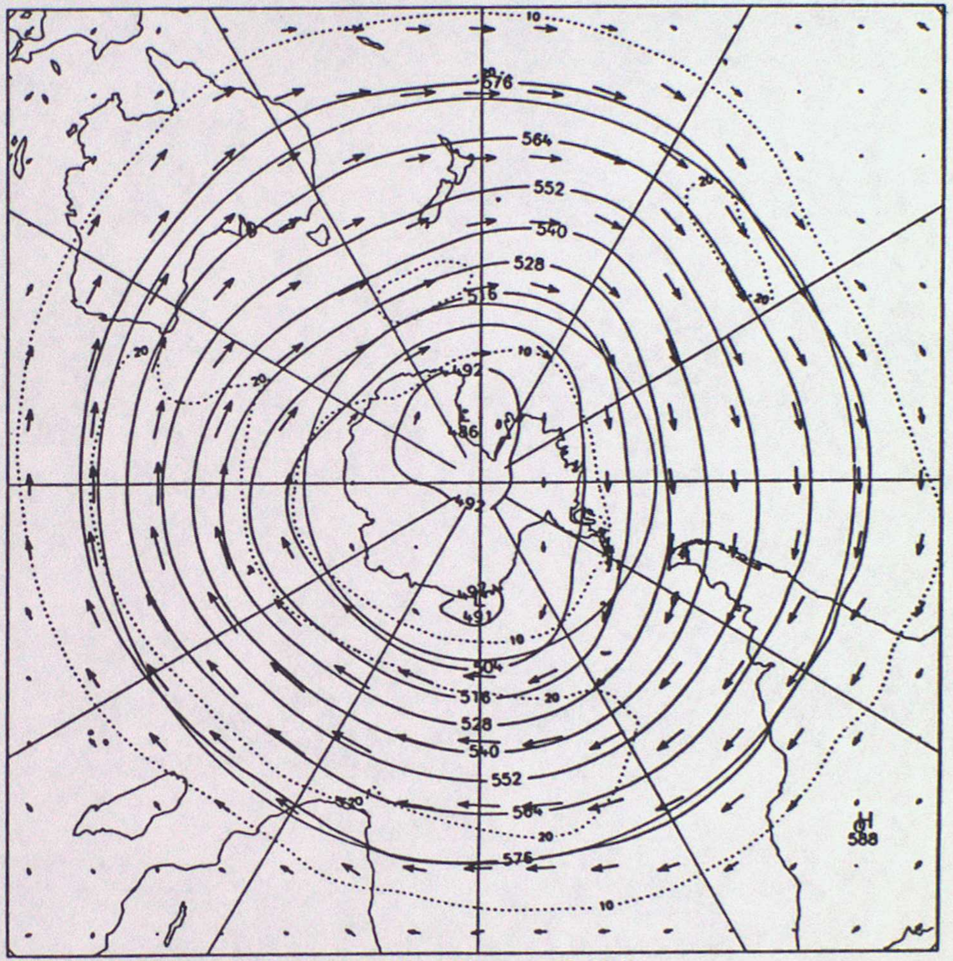
→ REPRESENTS 10 M/S   CONTOUR INTERVAL: 60 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 500 MB


H 590
588
576
564
552
10
H 590
H 591
H 591
H 593
H 589

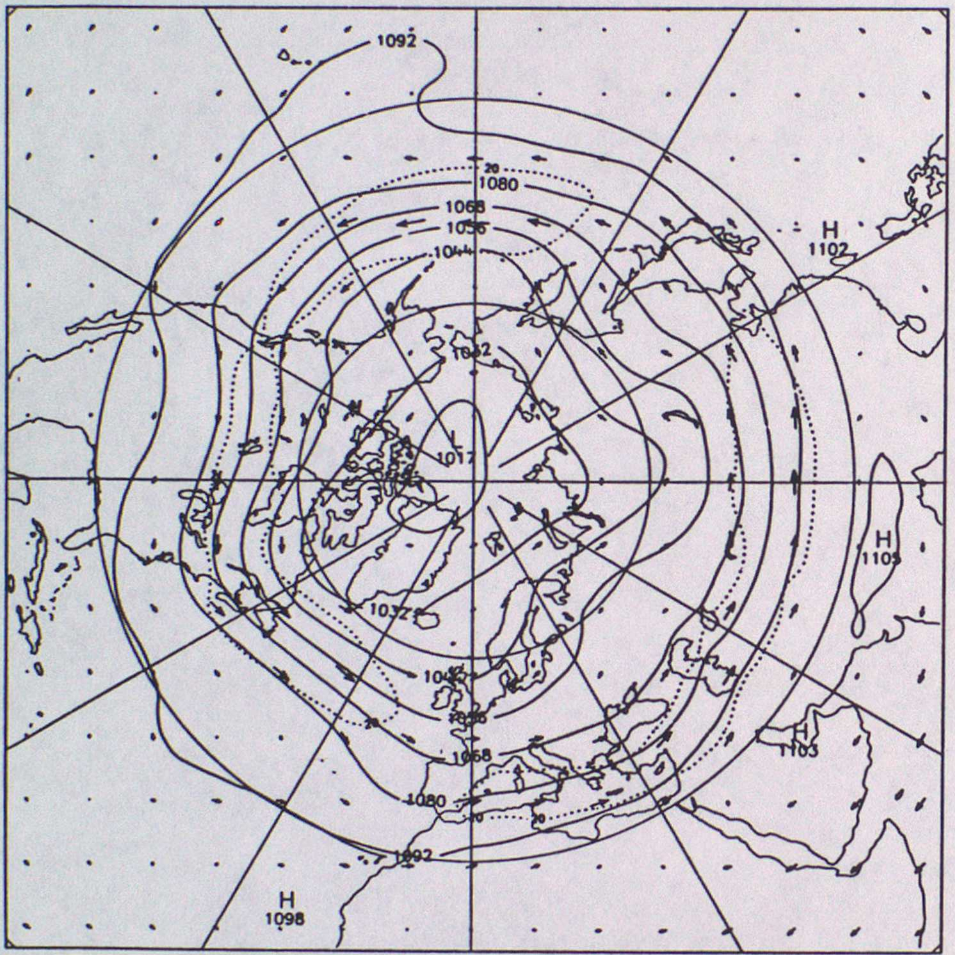
→ REPRESENTS 20 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 500 MB


576
564
552
540
528
516
504
492
486
491
20
10
H 588

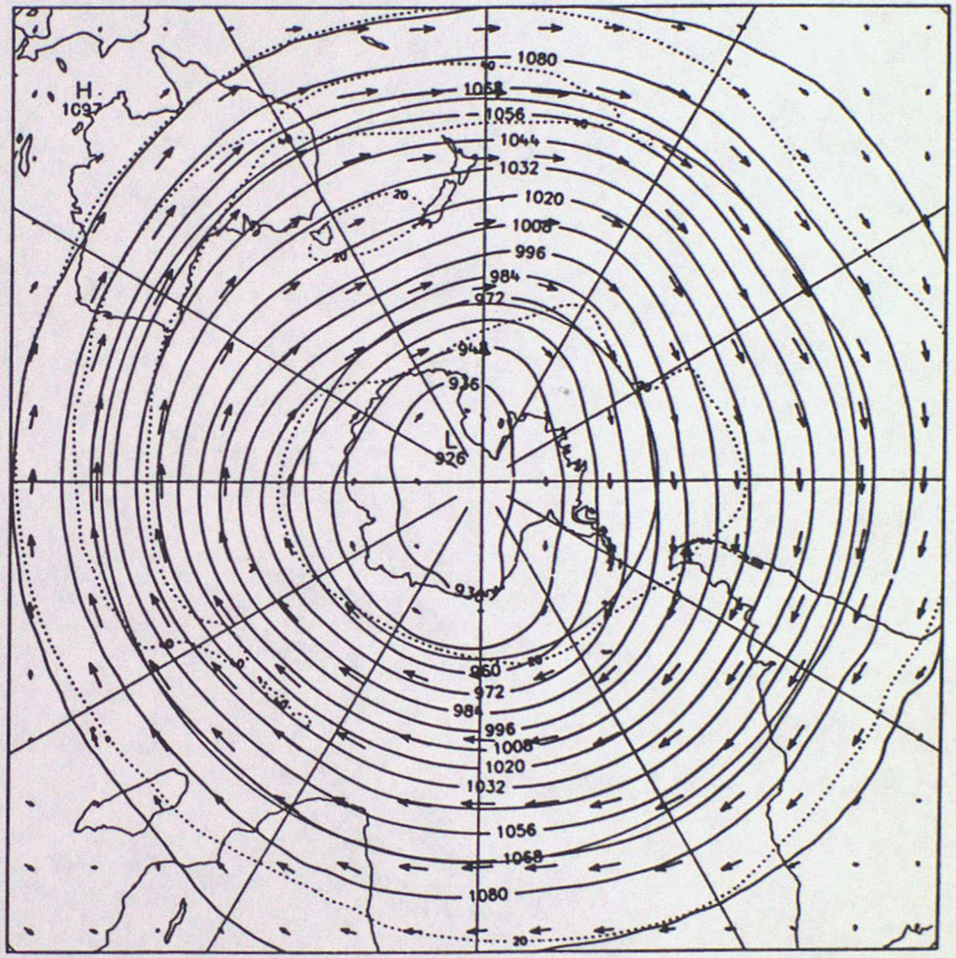
→ REPRESENTS 20 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. ANNUAL MEAN 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 250 MB


1092
20
1080
1068
1056
1044
1032
L
1017
H
1102
H
1105
1032
1044
1056
1068
1080
1092
H
1103
H
1098
20

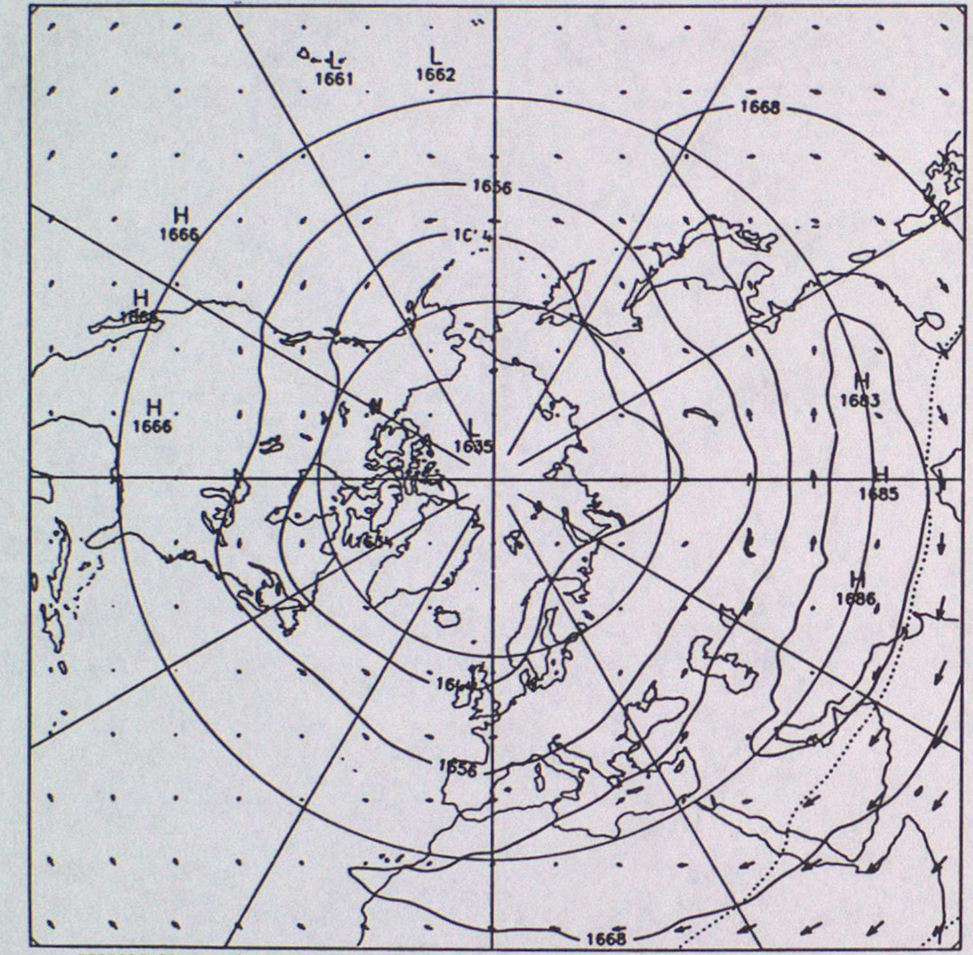
→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. ANNUAL MEAN 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 250 MB


H
1097
1080
1068
1056
1044
1032
1020
1008
996
984
972
948
936
L
926
936
960
972
984
996
1008
1020
1032
1056
1068
1080
20
40

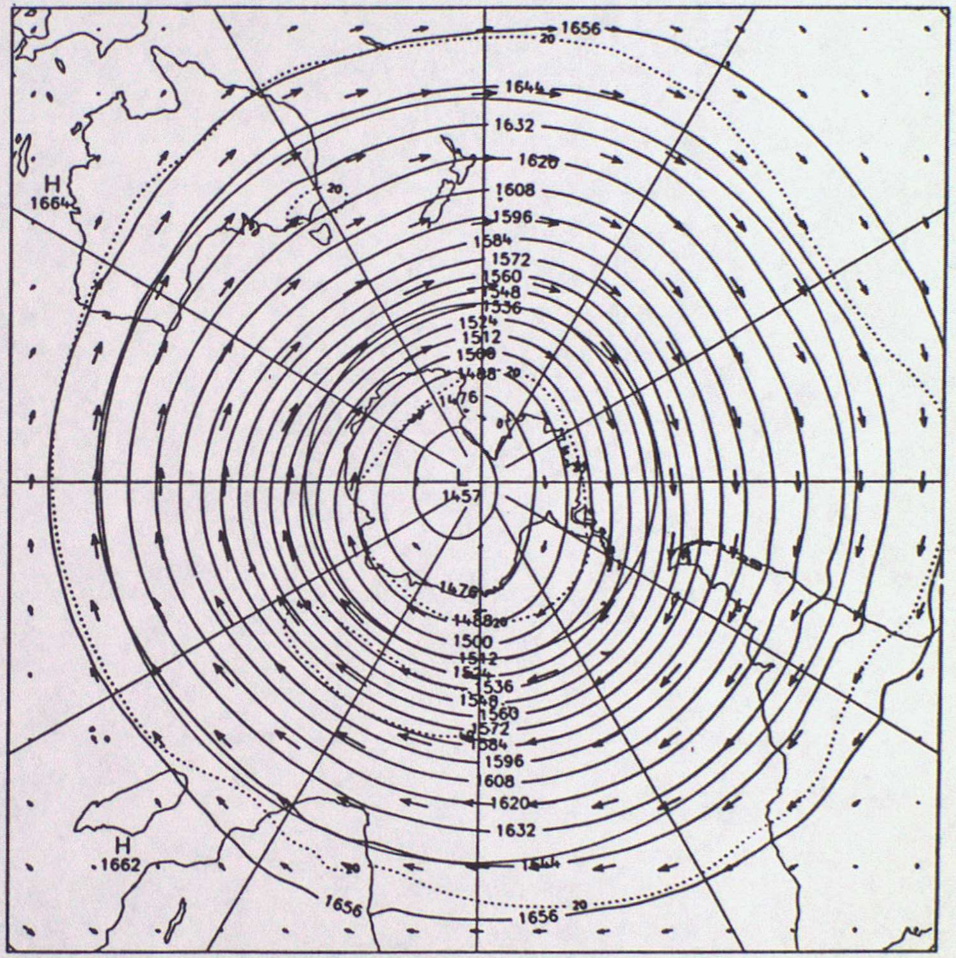
→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 100 MB


L
1661
L
1662
1668
1656
1604
H
1666
H
1666
H
1666
L
1635
1644
H
1683
H
1685
H
1686
1644
1656
1668

→ REPRESENTS 40 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
LEVEL: 100 MB


1656
20
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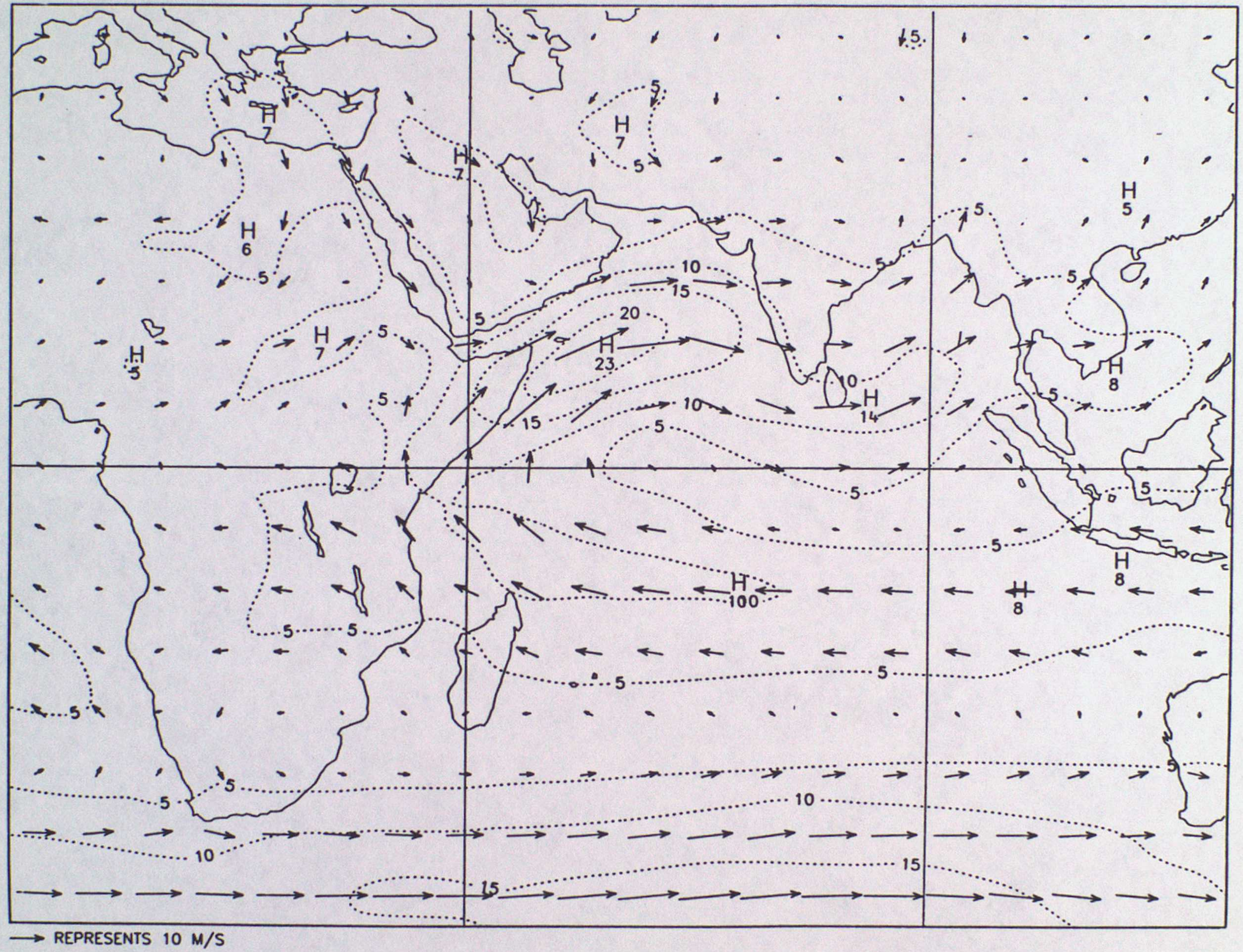
1632
1620
1608
1596
1584
1572
1560
1548
1536
1524
1512
1500
1488
20
1476
20
H
1664
L
1457
1476
1488
20
1500
1512
1524
1536
1548
1560
1572
1584
1596
1608
1620
1632
1644
H
1662
20
1656
20
1656

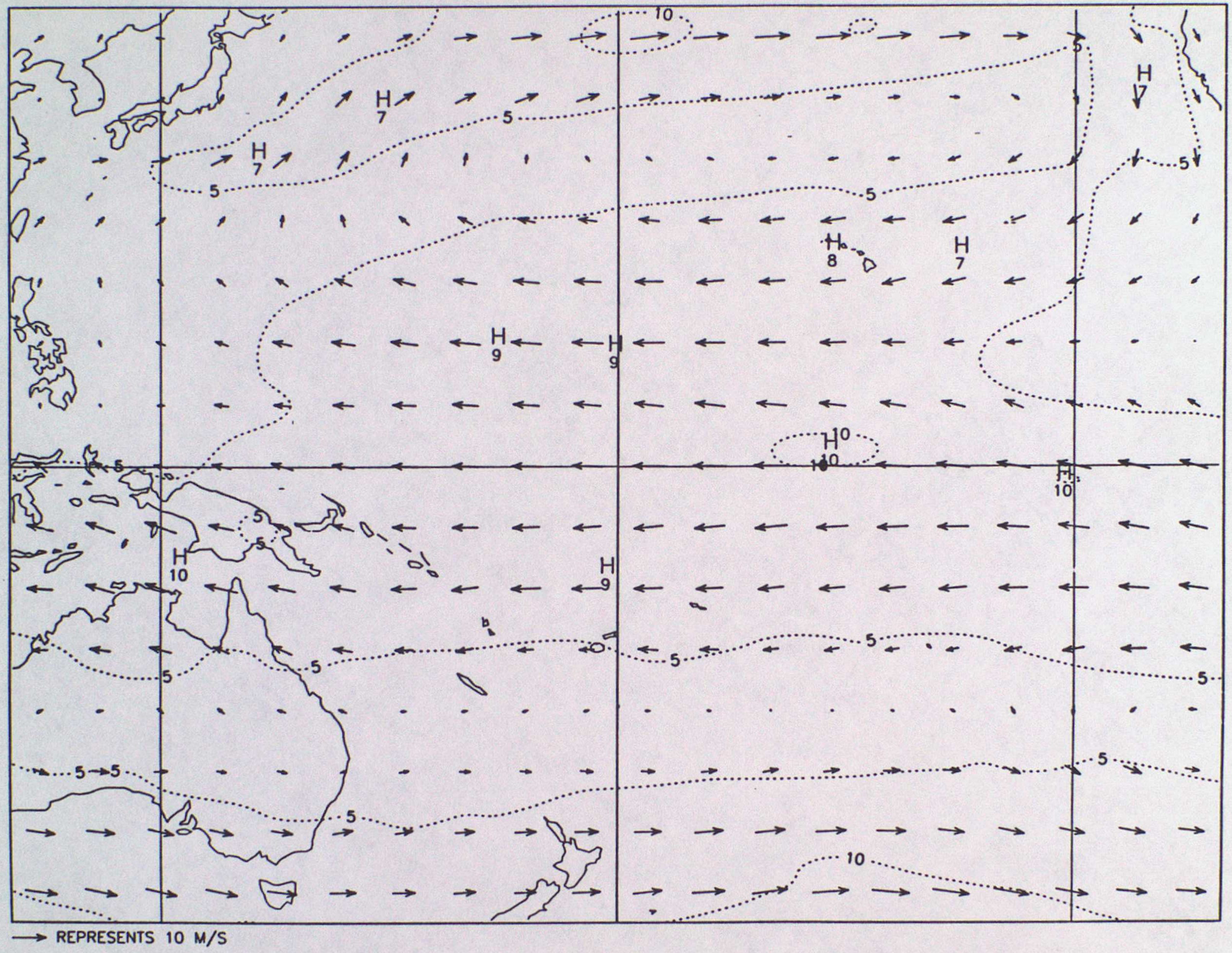
→ REPRESENTS 40 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM   0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
850 MBS.   BETWEEN LONGS. 0 E - 120 E


H 7
H 7
H 7
H 5
H 6
H 7
H 5
H 23
H 8
H 14
H 100
H 8
H 8
5
10
15
20

→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
850 MBS.   BETWEEN LONGS. 120 E - 120 W


10
H
7
H
7
5
5
5
H
7
5
H
8
H
7
H
9
H
9
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10
10
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10
5
5
H
10
H
9
5
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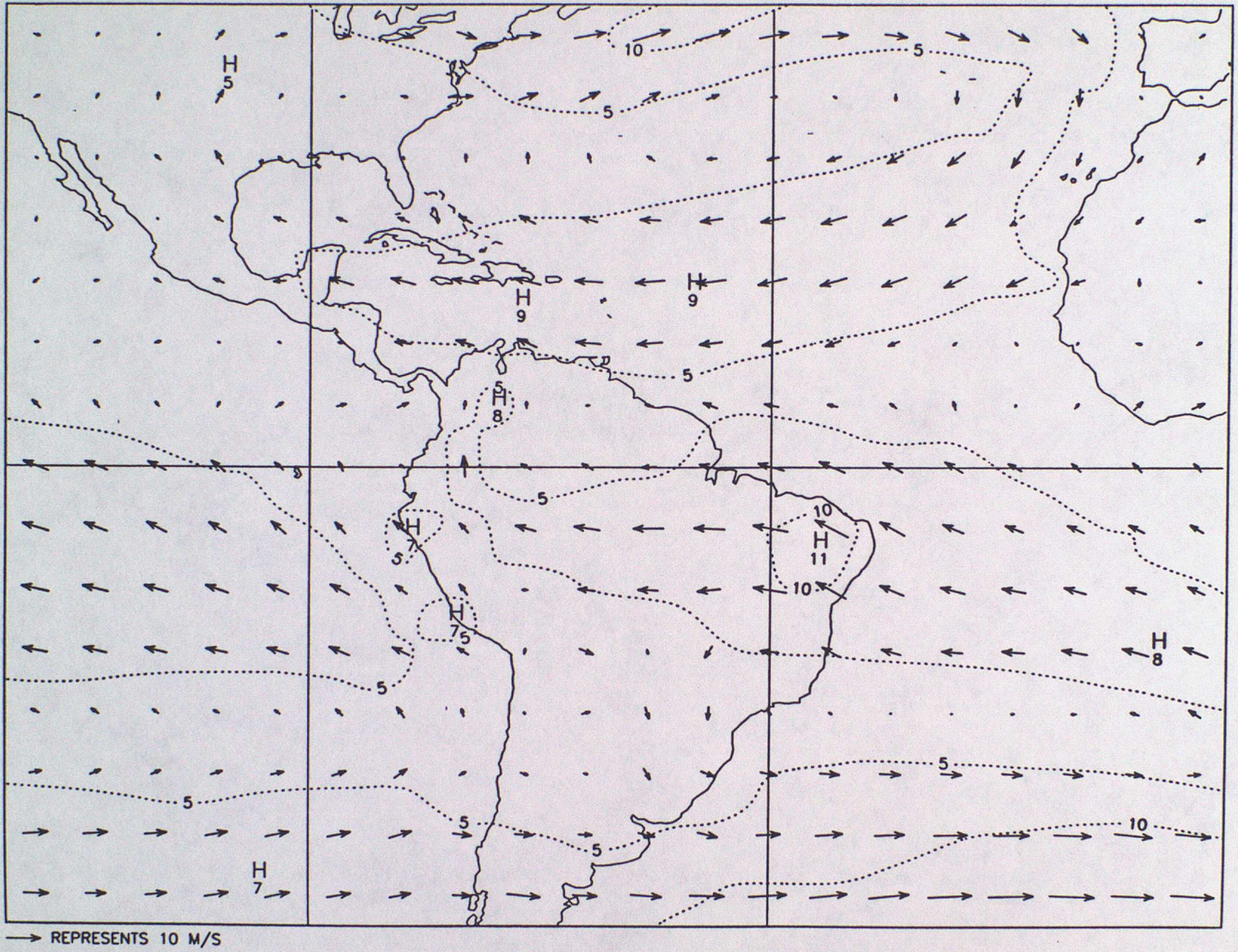
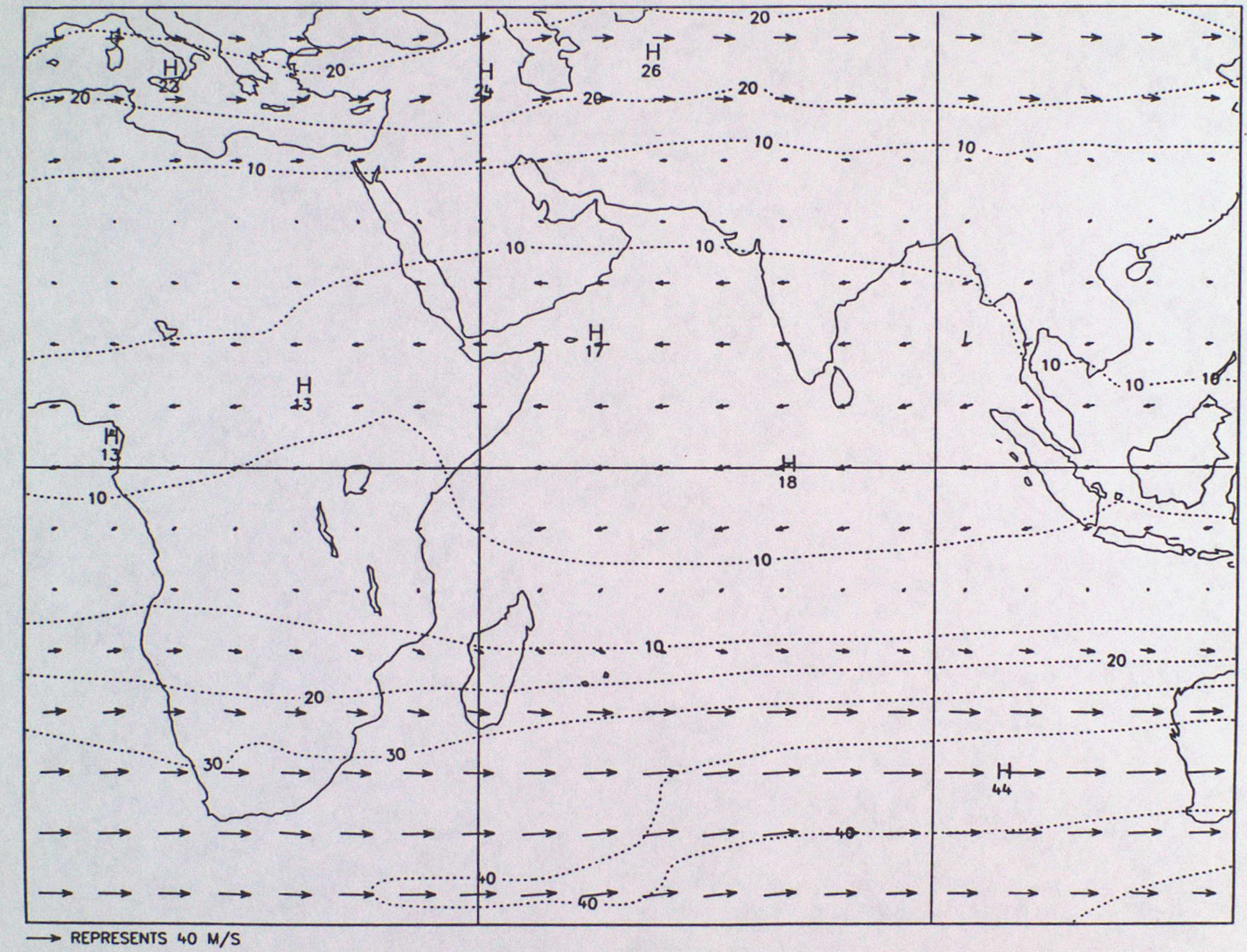
5
5
5
5
5 5
5
5
10
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
850 MBS.   BETWEEN LONGS. 120 W - 0 W


H
5
10
5
5
H
9
H
9
5
H
8
5
H
10
11
10
H
5
H
75
5
H
8
5
5
5
5
10
H
7
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
250 MBS.   BETWEEN LONGS. 0 E - 120 E


20
H 22
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H 24
H 26
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H 17
H 13
H 13
L
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H 18
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10
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20
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H 44
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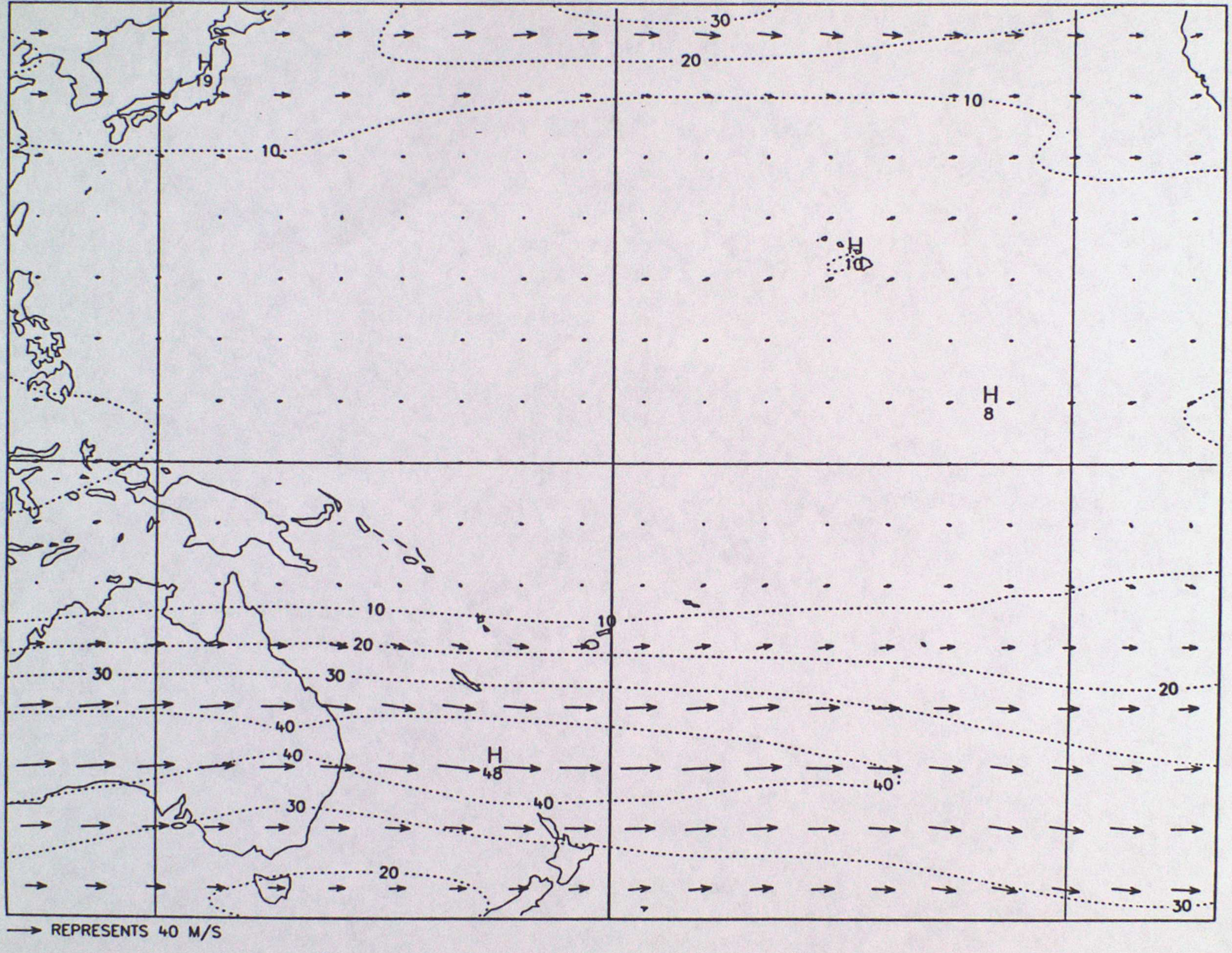
40
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
250 MBS.   BETWEEN LONGS. 120 E - 120 W


30
20
10
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19
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H
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H
8
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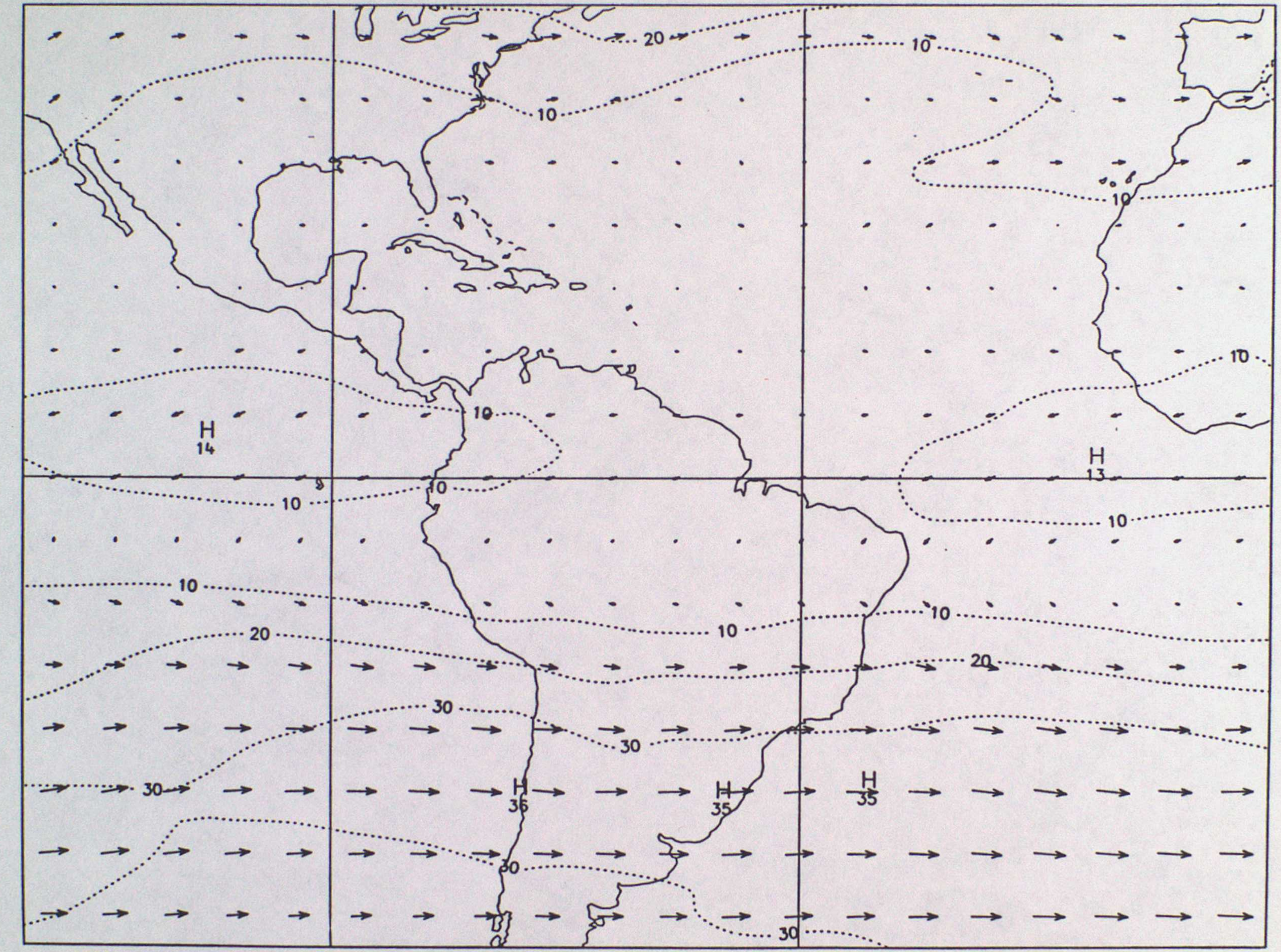
10
20
30
30
20
40
40
H
48
40
40
30
20
30
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS.   ANNUAL MEAN 1988
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/6/1988 DAY 153 TO 12Z ON 31/8/1988 DAY 244
250 MBS.   BETWEEN LONGS. 120 W - 0 W


20
10
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10
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14
10
10
10
H
13
10
10
10
10
20
20
30
30
30
H
36
H
35
H
35
30
30

→ REPRESENTS 40 M/S